

DOE/EIS-0116 (by adoption)
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FINAL
ENVIRONMENTAL IMPACT
STATEMENT

HAYDEN-BLUE RIVER
345 kV
TRANSMISSION LINE
PROJECT

Rural Electrification Administration
U. S. Department of Agriculture

JULY 1982

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FINAL ENVIRONMENTAL IMPACT STATEMENT

Title: Hayden to Blue River 345 kV Transmission Line

Lead Agency: U.S. Department of Agriculture - Rural Electrification
Administration

Cooperating Agencies: U.S.D.A. - Forest Service
U.S.D.I. - Bureau of Land Management

Location: Grand, Routt and Summit Counties, Colorado

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ABSTRACT

Tri-State Generation and Transmission Association, Inc., of Thornton, Colorado, and Colorado-Ute Electric Association, Inc., of Montrose, Colorado, propose to construct and operate a 145 km (90 mi) 345 kV transmission line and associated facilities from the existing Hayden Substation to the proposed Blue River Substation, northwest of Dillon, Colorado. Also participating in this project are Western Area Power Administration, Platte River Power Authority and Public Service Company of Colorado.

The Draft Environmental Impact Statement was filed with the Environmental Protection Agency and made available to the public on December 24, 1981.

This Final Environmental Impact Statement (FEIS) has been prepared by the Rural Electrification Administration to examine alternatives to and environmental consequences of the proposed project which will be located in portions of Grand, Routt and Summit Counties, Colorado.

The FEIS describes the proposed project in accordance with the National Environmental Policy Act and the Council on Environmental Quality's implementing regulations. The information received during the FEIS comment period will be utilized in REA's decisionmaking process regarding the request for financing assistance for the proposed project.

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ADMINISTRATOR'S STATEMENT

This Final Environmental Impact Statement describes the expected environmental effects of the construction and operation of the proposed 345 kV transmission line between Hayden and Blue River in Colorado. This FEIS includes all comments received from official agencies and from the public. It is my judgment that the potential action by the Rural Electrification Administration to provide financing assistance to Tri-State Generation and Transmission Association, Inc., and Colorado-Ute Electric Association, Inc., will be consistent with the policies set forth in the National Environmental Policy Act.

ADMINISTRATOR
Rural Electrification Administration

Date

ABBREVIATIONS

a	Acre(s)
AC or ac	Alternating current
AM	Amplitude modulation
AMAX	American Metals Climax, Inc.
ACSR	Aluminum conductor, steel reinforced
BLM	U.S. Bureau of Land Management
BOCC	Board of County Commissioners
BR	U.S. Bureau of Reclamation
°C	Degree(s), Celsius
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COE	U.S. Army Corps of Engineers
Colorado-Ute	Colorado-Ute Electric Association, Inc.
dB	Decibel(s)
DC or dc	Direct current
DEIS	Draft Environmental Impact Statement
DOE	U.S. Department of Energy
EA	Environmental Analysis
EIS	Environmental Impact Statement
EO	Executive Order(s)
EPA	U.S. Environmental Protection Agency
FAA	Federal Aviation Administration
°F	Degree(s), Fahrenheit
FEIS	Final Environmental Impact Statement
FM	Frequency modulation
FONSI	Finding of No Significant Impact
FS	U.S. Forest Service
ft	Foot or feet
FWS	U.S. Fish and Wildlife Service
ha	Hectare(s)
in	Inch
IPP	Inland Power Pool
km	Kilometer(s)
km ²	Square Kilometer(s)
kV	Kilovolt
m	Meter(s)
mA	Milliampere
MCM	Millicircular mil, 1,000 circular mil
mi	Mile(s)
mi ²	Square mile(s)
Mountain Parks	Mountain Parks Electric, Inc.
MVA	Millivolt ampere
MW	Megawatt(s) - one million watts
N	North
NEPA	National Environmental Policy Act
OSHA	Occupational Safety and Health Act
OSM	Office of Surface Mining
ppm	Parts per million
Platte River	Platte River Power Authority
PSCo	Public Service Company of Colorado
RARE	Roadless Area Review and Evaluation
REA	Rural Electrification Administration
RMPP	Rocky Mountain Power Pool

ROD	Record of Decision
ROW	Right(s)-of-way
S	South
SCS	U.S. Soil Conservation Service
SHPO	State Historic Preservation Officer, State of Colorado
Tri-State	Tri-State Generation and Transmission Association, Inc.
TV	Television(s)
UHF	Ultrahigh frequency
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
VAC	Visual absorption capability
VHF	Very high frequency
VQO	Visual quality objective
Western	Western Area Power Administration
WSCC	Western Systems Coordinating Council



1.0 SUMMARY

1.1 Introduction

This Final Environmental Impact Statement (FEIS) was prepared by the Rural Electrification Administration (REA), as the lead Federal agency in connection with a request for financing assistance from Tri-State Generation and Transmission Association, Inc., (Tri-State) and Colorado-Ute Electric Association, Inc., (Colorado-Ute) for a proposed 345 kV electric transmission line from Hayden to Blue River in northwestern Colorado. Tri-State and Colorado-Ute are referred to hereafter as the applicants. This FEIS represents REA's independent evaluation of the project. Information was obtained from many sources, among them the applicants' Environmental Analysis (EA); applicable Federal and State laws and regulations; coordination with Federal, State and local agencies; and public participation and comments.

The applicants and their consultants prepared an EA in accordance with REA Bulletin 20-21. The applicants' EA is appended (Section 10.0, Appendix 1) to this FEIS and is a part of the statement.

This FEIS is organized for the convenience of the reviewer as follows: Section 1.0 describes the scope of the project by briefly summarizing the alternatives and the environmental consequences that may result from the implementation of the proposed action, and presents conclusions; Section 2.0 presents the purpose and need for the project; Section 3.0 examines the various alternatives to the project; Section 4.0 describes the affected environment in the project area; Section 5.0 discusses the potential environmental impacts of the preferred and alternative Corridors (A and B); Section 6.0 presents the monitoring and mitigation measures; Section 7.0 presents an overview of the consultation and coordination procedures; Section 8.0 presents all written comments received on the DEIS and REA's responses to these comments; Section 9.0 is the references for the study; and Section 10.0 is the Appendices.

1.2 Scope of the Project

Tri-State, Colorado-Ute, Platte River Power Authority (Platte River) and the Western Area Power Administration (Western) have proposed the construction of approximately 145 km (90 mi) of 230/345 kV electric transmission line and associated facilities. Associated facilities include a new Substation in Middle Park near Kremmling. In connection with this project, Public Service Company of Colorado (PSCo) proposes to construct a substation at Blue River in the vicinity of Dillon in Summit County, Colorado. The proposed transmission line will originate at the existing Hayden Substation in Routt County and will terminate at the proposed Blue River Substation. The proposed line will be constructed for 345 kV operation but will initially be energized at 230 kV.

Tri-State, Colorado-Ute, Platte River and Western will share the costs of the transmission line project. The Blue River Substation will be financed by PSCo.

For purposes of the following discussions regarding the purpose and need for the project, alternatives to the project, the affected project area environment, and the environmental impacts of the project, the

conclusions regarding the "project" and the "project area" are equally applicable to the Blue River Substation to be constructed by PSCo.

Self-supporting steel lattice towers are the most appropriate structures for this project. Typical towers of this type are 34 m (110 ft) high. The line will require an average of 2.5-3.5 structures per km (3.5-4.5 per mi). The right-of-way (ROW) requirement for the line could vary from 41 m (135 ft) to a maximum of 61 m (200 ft). The maximum ROW would be used only when dictated by terrain or other features. The maximum total ROW requirement of 6 ha per km (24 a per mi) is approximately 900 ha (2,200 a). The land area displaced by each tower would typically be approximately 116 square m (1,250 square ft) or a total of 3.8 ha (9.4 a) if the structures are spaced approximately 442 m (1,450 ft) apart over a linear distance of 145 km (90 mi).

The conductors of the transmission line will be nonspecular 1,272 MCM, ACSR (aluminum conductor, steel reinforced) two-conductor bundle. The line will consist of three phases with one bundle (two conductors) per phase. Conductor phase spacing (horizontal distance between conductors) will be approximately 8 m (26 ft). At 49°C (120°F), a minimum of 10.7 m (35 ft) would be maintained between the conductors and the ground. The length of the insulator strings will measure about 4 m (13 ft). Two static wires approximately 1 cm (0.38 in) each will be placed on the structures and grounded to reduce the potential of damage due to lightning. The transmission line will be designed in accordance with REA recommendations and REA Bulletin 62-4. Vegetation growing in the ROW that could interfere with the operation and maintenance of the line will be topped rather than cleared. The ROW will be maintained to preserve a safe clearance between the conductors and the remaining vegetation. The line will be inspected periodically.

For the purpose of this discussion, conventional construction and the use of self-supporting steel lattice towers with concrete pier footings is assumed. If other structure or footing types were used instead, the construction methods described herein would vary accordingly.

Once the centerline has been established and access identified, tower footing sites would be staked. Most excavations for the tower foundations would be made with a truck-mounted auger. The stub angles would then be set and the concrete poured.

Concrete would be hauled overland to the tower sites, unless site-specific access restrictions dictate other construction techniques. Where necessary to reestablish growth and prevent erosion, the disturbed area would be mulched and reseeded, and appropriate erosion control measures would be used.

The steel lattice structure members would be assembled into sections on the ground at each tower site, or assembled at storage areas and moved overland to the site. The sections would then be raised with a crane and bolted into place.

Conductors and static wires would be strung after the towers are erected. Tension stringing techniques would be used to prevent the wires from contacting the ground or obstructions along the ROW.

Temporary guard structures would be erected as needed along the line route prior to stringing to prevent wires from creating safety hazards or otherwise interfering with ongoing land uses. Guard structures, usually wood poles, would be removed once stringing is completed.

Helicopters may be used for construction of portions of the transmission line. The decision on construction techniques will be made based on access availability, schedule constraints, environmental constraints, landowner/manager requirements and economic factors. A plan of operation describing landscape design, access roads and construction techniques to be used will be prepared and approved prior to construction for the facilities.

The proposed transmission line will be scheduled for completion during two construction seasons, if practicable. The construction season would begin in April and continue through November. The construction season would vary somewhat with weather and ground conditions, snowfall and construction methods.

The labor force required will vary according to construction methods, weather conditions and schedule constraints. If the entire line were constructed by conventional methods, the total labor force will range from 160 to 200 persons. Helicopter construction would require approximately 60 to 100 persons. A combination of conventional construction and helicopter assisted construction would require a total labor force of 100 to 120 persons.

Regardless of construction methods used, work crews will overlap from one construction phase to another. For the most part, the crews will be transient, moving along the line length.

A comprehensive analysis (prepared by Tri-State) describing the existing environment, corridor selection criteria and methodology, various alternatives, environmental consequences and proposed mitigation measures is presented in the EA for the Hayden to Blue River Transmission Project (Section 10.0, Appendix 1).

Corridors were evaluated on the basis of environmental, socioeconomic and engineering factors. The two most suitable corridors were identified and evaluated in greater detail. Their potential environmental consequences are discussed in Section 5.0 of this report. The environmental impacts presented in this section could reasonably be anticipated from construction and operation within either of these corridors (Corridors A and B). Impacts presented here stress the residual, unavoidable adverse impacts that could exist if the proposed action is implemented and the mitigating measures outlined in Section 6.0 are applied. The environmental consequences discussed are based on the following design-related assumptions:

1. the need of 116 square m (1,250 square ft) of land area per structure site or a total of 0.04 ha/km (0.11 a/mi) for structures;
2. approximately 1.6 to 2 ha (4 - 5 a) of land for each new substation site;
3. 6.0 ha/km (24.0 a/mi) of land within the ROW and

4. the intensity of environmental impacts per unit length of the transmission line resulting from construction and operation will be similar with few exceptions (e.g., wildlife, cultural resources), but the total impact would increase as the length of the line increases.

Corridor A is approximately 137 km (85 mi) long and Corridor B is approximately 145 km (90 mi) long. Construction and operation of a transmission line within either corridor is expected to result in some soil, air, water, social and biological impacts. In its evaluation, REA has applied criteria set forth in the National Historic Preservation Act of 1966, Executive Order 11988 on floodplain management; Executive Order 11990 on protection of wetlands; Executive Order 11593 on protection and enhancement of the cultural environment; Section 10 of the Rivers and Harbors Act of 1899; Federal Clean Air Act; Fish and Wildlife Coordination Act; Section 7 of the Endangered Species Act of 1973; and the U.S. Secretary of Agriculture's Memorandum No. 9500-2, revised - Statement on Land Use Policy, dated March 10, 1982.

The FEIS presents discussion of the environmental impacts for constructing, operating and maintaining the transmission line and associated facilities, including the Blue River Substation. Upon evaluation, REA finds that the impact of the proposed project on climate, geology, topography, recreational resources, prime farmland and rangeland will be outweighed by the benefits of the project. Unless stated otherwise, the types of environmental impacts will not vary significantly between Corridors A and B. A brief summary of the anticipated impacts follow:

1. Air Quality - Production of fugitive dust during construction will have a temporary unavoidable adverse impact on air quality.

2. Cultural Resources - There are no known cultural or archaeological sites present in the preferred corridors which are listed or proposed for listing in the National Register of Historic Places. After the centerline is established, a cultural resource survey will be conducted at areas to be disturbed prior to any ground disturbance. Results of the survey will be submitted to the State Historic Preservation Officer, State of Colorado (SHPO) and REA for their evaluation. Measures will be taken to protect any cultural resource discovered. Routing of the line will be altered, if necessary, to avoid areas of archaeological significance. The density of known cultural resources is greater in Corridor A than Corridor B making routing in Corridor A less flexible.

3. Floodplains and Wetlands - The average size of both wetlands and floodplains is small. Most wetlands will be avoided, therefore, they will not be significantly impacted. The floodplain which cannot be spanned and will be minimally impacted are associated with the Colorado and Yampa Rivers.

4. Noise - There will be a temporary increase in noise levels due to the construction. Operation of the transmission line and substations facilities will also increase the noise levels but it will not be excessive.

5. Socioeconomic - The project will have economic impacts to the area. The area of cropland, forest land and rangeland lost to production due to the presence of the transmission line will be negligible.

6. Threatened and Endangered Species - The U.S. Fish and Wildlife Service (FWS) issued a biological opinion on October 29, 1980, which stated that no federally listed threatened or endangered species would be adversely impacted by this project in either corridor. No adverse impacts to any threatened or endangered plant or animal species are anticipated.

7. Vegetation - Disturbance to vegetation will be unavoidable during construction since some vegetation removal in the ROW and substation sites is necessary. The loss of sawlog production during the life of the project will be greater in Corridor A than B.

8. Visual Resources - The project will present a visual impact in both corridors as portions of the line will be visible from roads and residences in the area. Depending on the alignment, construction in the lower reach of Corridor B may affect the views from Green Mountain Reservoir. Views may also be affected from the highway and campgrounds in the Blue River and Williams Fork in the Gore Pass area.

9. Water - There will be a short-term impact on the surface water because of sedimentation and erosion resulting from construction activities. Mitigation procedures will reduce or prevent most potential short-term effects.

10. Wildlife - Impacts on the various species of wildlife will be short-term and specific to the types of habitat crossed. Large animals will temporarily migrate from the construction area while some smaller biota may be permanently displaced or destroyed. On the average, Corridor B will impact more sensitive wildlife areas than Corridor A.

1.3 Alternatives and Actions

1.3.1 Project Alternatives

A wide range of alternatives were considered in planning the proposed action. The following alternatives are discussed and evaluated in Section 3.0 of this FEIS: 1) no action, 2) generation curtailment, 3) conservation and load management, 4) renewable energy systems, 5) transmission line alternatives and 6) corridor alternatives.

1.3.2 Federal Actions

Tri-State and Colorado-Ute have applied to REA for financing assistance for the construction of the proposed Hayden to Blue River transmission line project and associated facilities. There are three alternatives available to REA: 1) approval of the proposed project, 2) approval of the proposed project with restrictions and 3) disapproval of the project, resulting in a refusal by REA to grant financing assistance.

Similarly, the U.S. Forest Service (FS) and the Bureau of Land Management (BLM) actions consist of approving or disapproving ROW grants on Federal lands.

Permits will be required to cross lands managed by the BLM and include ROW grants and temporary use permits. The FS will require a "Special Use Permit" for the sections of ROW that will traverse parts of the Routt and Arapaho National Forests. After the ROW and the substation sites are finalized, the Federal Aviation Administration (FAA) will be contacted for the appropriate approvals. Upon notification by REA of the proposed project's scope, the FWS recommended a biological assessment of the bald eagle and black-footed ferret (both are endangered species) that may be present in the project area. The FWS concurred with REA's determination of "no effect" on these species (Section 10.0, Appendix 3).

The U.S. Army Corps of Engineers (COE) will require compliance with the applicable requirements of Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 (The Refuse Act).

1.3.3 Nonfederal Actions

A State permit from the Colorado Department of Highways for crossing Federal and State highways will be required.

A fugitive dust control permit from the Air Pollution Control Division, Colorado Division of Health will be required.

The SHPO will review the cultural resource survey when completed for the line route including substation sites and access roads.

The Colorado State Board of Land Commissioners will require a perpetual easement if the project crosses land under its jurisdiction.

A Certificate of Public Convenience and Necessity was issued by the Colorado Public Utilities Commission in April 1981.

Approval from the Board of County Commissioners of Grand, Routt and Summit Counties will be required for this project.

1.4 Major Concerns and Issues

Major concerns and issues raised during the scoping process are summarized below:

- o The visual impact of the transmission line structures into a scenic and rural area. Most residents consider scenic quality to be a valuable asset to the area.

- o The land area which will be taken out of production for the proposed project. This focuses primarily on cropland and timberland. The potential impact of the transmission line on floodplains and wetlands.

- o There are four plant species in the project area which are currently under study for proposed listing as federally threatened, endangered or rare species and the adverse impact of the transmission line on these species.

o The impact on wildlife included habitat for elk, mule deer, various avian species, and rare or endangered species.

o The potential impact of the project on archaeological and historical sites.

1.5 Conclusions

REA has concluded that the proposed Hayden to Blue River transmission line is a project that can be constructed with an acceptable amount of adverse environmental impacts compared with the benefits derived from this project. Therefore, REA supports the proposal for the construction and operation of the Hayden to Blue River transmission line and associated facilities. Corridor A is the environmentally preferred corridor while Corridor B is an environmentally acceptable alternative corridor.

1.6 Record of Decision

Although REA has identified its preferred alternative relating to the Hayden to Blue River transmission line project, a final decision will not be made until a minimum of 30 (thirty) days after the U.S. Environmental Protection Agency (EPA) has published, in the Federal Register, the Notice of Availability for the FEIS. The decision will be based on environmental information in the EA, DEIS, FEIS, and other supporting documents.

After the decision, a Record of Decision (ROD) will be prepared, according to Section 1505.2 of the National Environmental Policy Act (NEPA) regulations. The ROD will state the decision, identify all alternatives evaluated, identify the environmentally preferred alternatives and discuss the rationale for the choice among alternatives.



2.0 PURPOSE AND NEED

2.1 Project Participants

The proposed Hayden to Blue River transmission line project will be shared by four power suppliers: Tri-State, Colorado-Ute, Platte River and Western. Tri-State is the project manager.

Tri-State is a nonprofit, rural electric cooperative which provides power generation and bulk transmission services to 25 member rural electric cooperatives in the States of Colorado, Nebraska and Wyoming. Tri-State's service area encompasses approximately 325,000 square km (125,000 square mi), and its members serve approximately 126,000 retail customers. A large portion of Tri-State's power requirement is provided from the Lower Missouri Basin hydroelectric facilities of the U.S. Bureau of Reclamation (BR) with marketing and transmission services provided by Western. Tri-State is a member of the Inland Power Pool (IPP) which coordinates reserves and emergency procedures of utilities interconnected with the transmission grid from Montana to New Mexico. Tri-State is also a member of the Rocky Mountain Power Pool (RMPP), the Missouri Basin Systems Group and the Western Systems Coordinating Council (WSCC).

Colorado-Ute is a nonprofit, incorporated generation and transmission cooperative headquartered in Montrose, Colorado. Colorado-Ute provides wholesale electric power to 13 retail electric distribution cooperative members who serve 111,000 metered consumers, and whose combined service territories encompass more than one half of Colorado's land area. Colorado-Ute operates the Hayden and Craig (Yampa Project) Generating Stations and several smaller generating installations and is a member of the IPP, RMPP and the WSCC.

Platte River is a generation and transmission utility organized by the north central Colorado municipalities of Estes Park, Fort Collins, Loveland and Longmont. Platte River is a nonprofit subdivision of the State of Colorado and supplies wholesale electric power to the four municipalities mentioned above. These four cities serve approximately 57,500 consumers. Platte River purchases hydroelectric power from the BR and is a member of the IPP and WSCC.

Western, an agency of the U.S. Department of Energy, handles the marketing and transmission of power from the plants of the BR, COE and other Federal agencies. The area served by Western includes roughly 15 states west of the Mississippi River. Western is also a member of the WSCC.

Service areas for three of the project participants (Tri-State, Colorado-Ute, and Platte River) and PSCo are shown in Figure 1.

PSCo, while not a direct participant in the project, will accommodate the proposed line by constructing the Blue River Substation at the southern terminus of the project where the line will interconnect with PSCo's transmission system.

The project participants are sharing cost for the proposed project as follows: Tri-State, 50 percent; Colorado-Ute, 20 percent; Platte River, 20 percent; and Western, 10 percent.

2-1
30%
VERIFY w/ LINDA



PROJECT

HAYDEN - BLUE RIVER 345 KV T-LINE

DATE

4-5-82

SCALE

1" = APPROX. 16 MI.
1/4" = APPROX. 25.7 K

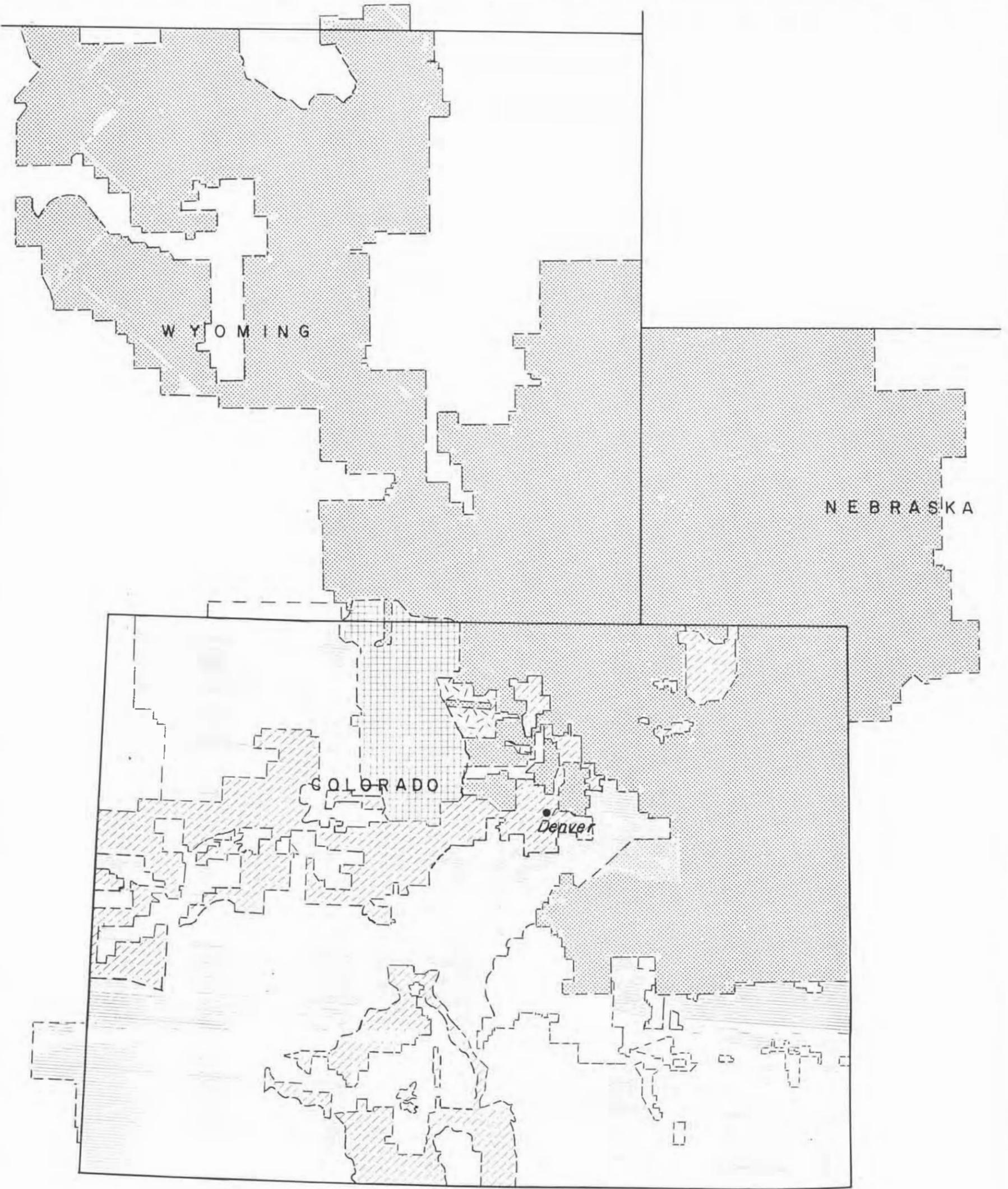
DRAWN

WED MMB

APPROVED

DRAWING NUMBER

1046-17-001



-  COLORADO - UTE SERVICE AREA
-  PUBLIC SERVICE COMPANY OF COLORADO SERVICE AREA
-  MOUNTAIN PARKS SERVICE AREA (TRI - STATE MEMBER)
-  TRI - STATE GENERATION AND TRANSMISSION SERVICE AREA
-  PLATTE RIVER POWER AUTHORITY SERVICE AREA

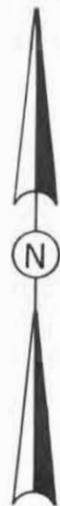


FIGURE 1



2.2 Need for Project

Analyses of the existing northwestern Colorado transmission system were conducted by the project participants utilizing computer simulation studies to determine how the system would respond during normal and contingency situations (Tri-State, 1981 and Hayden-Dillon 230 kV Project Progress Report for WSCC, January 31, 1979). Analyses revealed heavy line loading and excessive energy losses in the existing 138 kV system.

The two most heavily loaded transmission lines are the Hayden-Green Mountain and Hayden-Artesia-Vernal 138 kV lines. Because of their length and voltage, these lines provide lower impedance paths for power flow than other lines emanating from Hayden. Therefore, these lines load heavily during certain energy interchange schedules during both peak and off-peak periods.

The Hayden-Green Mountain line is insulated for 115 kV but is operated at 138 kV. The major problem with this situation is that, particularly during inclement weather, the likelihood of insulator flashover is greatly increased, so the line is susceptible to more frequent outages. Reinsulating this line would reduce the frequency of flashover for a short period of time, but would not relieve the heavy line loading caused by increased energy demand.

As early as 1982, the northwest Colorado subtransmission system could experience serious voltage problems during scheduled and unscheduled outages of the existing Hayden-Gore Pass or the Gore Pass-Green Mountain transmission lines (Tri-State, 1981). As the loads of the northwestern Colorado area continue to grow, these system problems are expected to become increasingly severe.

In addition, excess line loading could occur during normal operating conditions by 1982 (Hayden-Dillon 230 kV Project Progress Report for WSCC, January 31, 1979). Under light 1982 summer load levels with no system contingencies, system studies indicate that the Hayden-Artesia-Vernal 138 kV transmission line will be overloaded.

By 1986, an outage of the Craig-Ault 345 kV transmission line could result in an overload of the Hayden-Green Mountain 138 kV line (Tri-State, 1979). However, the peak losses on the Hayden-Green Mountain line during normal and contingency situations would be severe prior to any actual overload.

As it now exists, the northwestern Colorado west-to-east transmission system cannot support either the projected load growth in this area reliably or the additional generation required to serve this growth. The existing system is also seriously deficient in its ability to maintain acceptable voltage levels during system disturbances.

Additional transmission capacity is needed between the Hayden and Dillon areas (Yampa Project Operating Study). A strong transmission tie between these points would provide numerous benefits to the western Colorado bulk power system. One of the major benefits would be the substantial reduction in loading on the heavily loaded 138 kV system. This loading reduction, in turn, would decrease energy losses on the 138 kV line to acceptable levels and reduce the potential for outages.

System reliability between generation resources in northwestern Colorado and Colorado's eastern slope will increase substantially with the construction of the proposed transmission line (Yampa Project Operating Study).

The Yampa Project (Craig Generating Station), owned by Colorado-Ute, Platte River, Salt River Project and Tri-State, was designed and constructed with a minimal transmission system. As the Yampa transmission system developed, and changes in other regional projects occurred, additional studies showed that the Yampa Project transmission system was inadequate (Yampa Project Operating Study). These studies indicated the need for additional capacity between Craig/Hayden and the eastern slope. Specifically, the studies show that the existing transmission system will not withstand the loss of the Craig-Ault 345 kV line when Craig and Hayden Stations are operating at full capacity.

In order to overcome these deficiencies, the project participants are proposing to construct the Hayden to Blue River 345 kV transmission line between Hayden and the Dillon area. The proposed line will increase the transfer capability of the project participants. This increase will allow the participants to make off-peak sales or exchanges of energy which will aid in conserving oil resources, and will be beneficial to the economic operation. Additionally, the Hayden to Blue River line will increase the stability of the Craig and Hayden Stations by providing an additional transmission tie in the northwestern Colorado area.

2.3 Specific Needs of Project Participants

The proposed project is required by Tri-State to increase system reliability by providing a transmission path via PSCo's transmission system to serve its member loads during a contingency outage of the existing Craig-Ault 345 kV line (Yampa Project Operating Study). Without this link, Tri-State may be unable to utilize its share of output from the Craig Generating Station during such an outage to serve its eastern Colorado member loads. This situation would result in Tri-State having to purchase power, if available, from other utilities, increasing costs to Tri-State, its associated members and, ultimately, their members' consumers. If other power were not available, Tri-State's consumers would face power outages or low voltage conditions. The potential economic loss and inconvenience to residential and commercial consumers could be severe, depending upon the duration of the line outage.

The proposed Hayden to Blue River transmission line is also required by Tri-State to improve its reliability of service to Mountain Parks Electric, Inc. (Mountain Parks) and to serve the growing area loads of Mountain Parks (Tri-State, 1981). Mountain Parks is one of Tri-State's distribution members and its headquarters is in Granby, Colorado. As illustrated in the following table, the summer and winter loads for the 10 years initiating in 1981 are expected to increase 160 and 77 percent, respectively for Mountain Parks' service area.

Table 1

PROJECTED LOADS
MOUNTAIN PARKS ELECTRIC, INC.

<u>Year</u>	<u>Summer (KW)</u>	<u>Winter (KW)</u>
1981	20,000	47,000
1982	30,000	54,000
1983	37,000	60,000
1984	38,000	62,000
1985	40,000	64,000
1986	41,000	68,000
1987	42,000	69,000
1988	44,000	70,000
1989	47,000	75,000
1990	49,000	79,000
1991	52,000	83,000

The Hayden to Blue River project would provide Colorado-Ute with an additional interconnection to the PSCo system. This interconnection would reinforce the existing east-west transmission ties across the State of Colorado and thereby increase system stability and reliability. The additional tie with PSCo would increase the opportunity for pooling capacity reserves, energy exchanges, and possible off-peak sales or purchases.

Initially, no Colorado-Ute customers would be served directly from the proposed line. The potential for load development in the Oak Creek area does exist, but would require additional transmission support. However, this development is uncertain and no specific time frames or forecasts have been developed. Oak Creek loads are presently small and, barring a major development, additional service would probably be provided by adding a 138 kV substation to the existing 138 kV Hayden-Green Mountain line. However, without the construction of the proposed Hayden to Blue River line, a new substation on the 138 kV line would not be feasible, due to the added burden it would place on the already heavily-loaded line. Also, additional transmission capacity will be required in the future by Colorado-Ute to adequately serve its eastern Colorado member loads. By participating in the proposed Hayden to Blue River 345 kV line project, Colorado-Ute may be able to eliminate the need for additional new transmission facilities between northwestern Colorado and eastern Colorado.

Platte River is a participant in the proposed project because it will receive an increase in regional system reliability which will increase the reliability of its power sources. The primary transmission path for Platte River's share of Craig generation is the Craig-Ault 345 kV transmission line. If an outage occurs on this line, another path is essential for the delivery of Platte River's Craig power (Yampa Project Operating Study). The Hayden to Blue River transmission line will provide the backup transmission capacity which Platte River requires to serve its customers under all reasonably expected outage situations.

For Western, the proposed Hayden to Blue River line will reduce the loading and electrical losses on its 230/138 kV transformers at the Hayden Substation, and on its Hayden-Green Mountain transmission line (Hayden-Dillon 230 kV Project Progress Report for WSCC, January 31, 1979). The project will also increase Western's transmission capacity between Hayden and the Middle Park area and will increase the total capability of Western's system to deliver power between western and eastern Colorado. In addition, the proposed line will increase Western's ability to conduct economic interchanges of power with utilities, resulting in fuel conservation and cost reduction to utility consumers.

3.0 ALTERNATIVES

Various alternatives have been examined for providing additional transmission capacity and improving power supply reliability in northwestern Colorado. These alternatives are discussed below.

3.1 No Action

Taking no action would compound the power supply problems of the project participants in northwestern Colorado as discussed in Sections 2.2 and 2.3 of this report. Potential problems that would continue to exist are (1) inadequate system reliability, (2) increasing power system losses and an unacceptable level of reduced efficiency, (3) inability to maintain subtransmission system voltage levels consistent with transmission system design, (4) increased cost due to purchase or replacement of energy during outage conditions, and (5) loss of economic benefits to parties involved. Without this project, some utilities may be compelled to implement power reduction measures.

The no action alternative could result in frequent and continued outages in the area. The outages in the area would continue to increase as loads in the system increase. Therefore, the no action alternative is not considered to be a reasonable alternative in fulfilling the present need for the project.

Implementation of this alternative would preclude any impact to the physical environment which would be associated with the construction of a transmission line.

3.2 Generation Curtailment

Reducing power generation at either the Craig or Hayden Stations would solve the immediate problem of inadequate transmission facilities. But, there are several drawbacks associated with this alternative. For example, there would be no additional power available during peak periods which will be needed to serve the future increasing power demands for the service area. The area will experience severe shortages as the demand for power surpasses the supply. Another adverse impact of generation curtailment is the economic disadvantage due to inefficient operation of the system. Moreover, there will be no power available to sell during off-peak periods. Generation curtailment would avoid environmental impacts associated with constructing a transmission line, but it would not satisfy the needs of the project participants. This alternative was rejected because it would not solve the long-range power deficiencies for the service area and, therefore, it was not considered a viable alternative.

3.3 Conservation and Load Management

REA urges its distribution borrowers to develop energy conservation programs as outlined in the Energy Conservation Handbook (a supplement to REA Bulletin 20-2). REA financing assistance to distribution borrowers is contingent upon the borrower being committed to an effective energy conservation program including load management measures. Member cooperatives of the project participants are involved in conservation

measures by educating the public through publication and public educational programs on such subjects as home insulation and weatherization, off-peak use of appliances, and control of heating and cooling loads.

While the cumulative effects of energy management and load management programs are encouraging, it is still not possible to accurately predict load reductions due to these efforts because of lack of information. This alternative would not cause environmental impacts associated with constructing a transmission line, but it would not satisfy the project need. REA concluded that this alternative would not eliminate the need for additional bulk transmission for improving the system reliability.

3.4 Renewable Energy Systems

Construction of localized new generation facilities, especially the use of nontraditional energy sources, could satisfy both the reliability problem that exists in the service areas of the four area suppliers and also the need for emergency, maintenance, and other power requirements. However, the problem that exists in the area is not a shortage of power but lack of means of transporting power from the point of generation to the area of load centers. Localized generation of energy through renewable energy sources coupled with conservation efforts might reduce power requirements to some extent, but it is considered inadequate to preclude the need for additional transmission capacity. Moreover, some renewable energy sources are not always readily available when they are needed by consumers, are more costly than most traditional energy sources and in some cases have not been sufficiently developed to provide reliable and dependable service. Other disadvantages to power reduction have been discussed in Section 3.2 under Generation Curtailment. This alternative would have environmental impacts similar to the proposed project since some new transmission facilities of lesser magnitude would have to be built. It would also cause impacts to air, water, etc., associated with power plant construction. New generation through renewable energy sources was judged to be not a viable alternative to this project.

3.5 Transmission Line Alternatives

Through modifications, the existing transmission system could be upgraded to provide for power transmission requirements in the project area. Advantages and disadvantages of each of these transmission system modifications are discussed in Sections 3.5.1 - 3.5.4. The cost estimates for the various alternatives discussed in this section, presented in Table 2, vary between \$17.1 and \$37.8 million. Figure 7-10, page 187 of Appendix 1 (Section 10.0) shows the location of existing transmission facilities in the project area.

3.5.1 Replace Existing Hayden-Gore Pass-Green Mountain (138 kV)-Blue River (115 kV) Line with 345 kV Line

To replace the existing 138/115 kV line and utilize all or portions of the existing ROW, removal of the existing line would be required prior to construction of a new line.

Table 2

ESTIMATED COSTS OF TRANSMISSION LINE ALTERNATIVES

<u>Alternatives</u>	<u>Approximate Length</u>		<u>Estimated Cost</u> (million \$ 1981)
	(km)	(mi)	
1. Replace existing Hayden-Gore Pass-Green Mountain (138 kV)-Blue River (115 kV) line with 345 kV using centerline of existing ROW ^{a/}	145	90	31.3
2. Replace existing Hayden-Gore Pass-Green Mountain (138 kV)-Blue River (115 kV) line with double-circuit 230 kV line ^{a/}	145	90	33.0
3. Tap Hayden-Archer 230 kV line near Walden and replace Green Mountain-Gore Pass-Muddy Pass-Walden 69 kV line with 230 kV. Construct 230 kV between Archer Tap and Walden, and between Green Mountain and Blue River ^{a/}	145	90	17.1
4. Construct Hayden-(Middle Park)-Blue River 345 kV line double-circuit existing 138 kV line	145 Max.	90 Max.	\$28.8 million plus \$100,000 per mile; plus \$200,000 for additional line design: Max. \$37.8 million ^{b/}
5. Construct new Hayden-(Middle Park)-Blue River 345 kV line	145	90	28.8

Handwritten note: 230 kV line to be constructed

Handwritten note: USE APPROPRIATE

Handwritten note: PROPOSED ↑

Handwritten note: CORRIDOR A WHICH IS APPROXIMATELY 25 MILES ACCORDING TO P-1-4

^{a/} The termination point at Summit for alternatives 1, 2, and 3 in the DEIS was eliminated because PSCo has agreed to upgrade the 115 kV line between Blue River and Dillion to 230 kV. Therefore, there is no reason to construct the proposed line to Summit.

^{b/} This alternative shows costs above the base of building a 345 kV line, as shown in Alternative #5. Therefore, the maximum cost of this alternative is \$28.8 million plus an additional \$100,000 per mile of double-circuit 345/138 kV.

Because of the need for continued subtransmission support, the environmental disadvantages of following the existing alignment, and the long-range transmission and subtransmission needs in the project area, this alternative is not considered practical. REA, therefore, eliminated it from further study.

3.5.2 Replace Existing Hayden-Gore Pass-Green Mountain (138 kV)-Blue River (115 kV) Line with Double-Circuit 230 kV Line

Implementing this alternative will result in similar advantages and disadvantages as those discussed in Section 3.5.1. Additionally, the cost per megawatt of capacity presents an economic disadvantage of double-circuiting. The cost of removing the existing line, replacing the structures, and stringing two circuits would be more than constructing a new, single-circuit 345 kV line in this region and the double-circuit line capacity would be only about two-thirds the capacity of a new single 345 kV line and the capacity of the existing 138 kV line. This alternative would have a smaller capacity margin for future load growth and would necessitate an additional transmission facility sooner than the preferred alternative.

After examining the advantages and disadvantages of double circuiting, it is concluded that this is not a feasible alternative for supplying the long-term power needs of the participants nor would it be a cost-effective transmission alternative. Therefore, this alternative was eliminated from further study.

3.5.3 Tap Hayden-Archer or Craig-Ault Line and Replace Walden-Muddy Pass-Gore Pass-Green Mountain Line

The Hayden-Archer 230 kV line or the Craig-Ault 345 kV line could be tapped near Walden, Colorado, and the existing Walden-Green Mountain 69 kV line could be replaced with 230 kV or 345 kV and extend it to the Blue River Substation. These alternatives could provide the increased transmission needed to serve the growing energy demands in the Walden area.

Higher peak losses would be incurred on such a line, and the tap on either line out of Hayden would introduce further reliability problems in the regional transmission system. For example, if the Hayden-Archer 230 kV line were tapped near Walden, the reliability of the new Walden-Gore Pass-Blue River line would depend on the Archer line remaining in service. If an outage occurred on the Archer line, both that line and the new line would be out of service.

The Craig-Ault 345 kV line is a primary path for delivering power from Craig and Hayden to loads in eastern Colorado. The proposed project will provide a backup path during outages of the Craig-Ault line. If the Craig-Ault line were tapped, and an outage occurred on that line, both the primary and the backup paths would be eliminated.

A tap on Hayden-Archer 230 kV line may increase the transfer capability to Wyoming and eastern Colorado only slightly, since this alternative would not provide a separate direct path from Hayden and Craig generation sources. No increase in transfer capability would result if the Craig-Ault 345 kV line is tapped. This alternative would not provide the

needed increase in transfer capacity to reliably serve Tri-State's and Platte River's existing and future Wyoming and eastern Colorado loads.

Impedance levels on a new line from Walden to the area north of Dillon would be higher than the preferred alternative because of the longer distance from the power source (Hayden or Craig). Increased impedance levels would lead to higher line losses. The cost savings of this alternative would be some what offset by the additional line losses.

The Archer and Ault lines were constructed to deliver power from existing sources to southern Wyoming and northern Colorado, respectively. A tap on either of these lines would reduce the amount of transmission capacity to Archer or Ault. This change in capacity margin could have serious ramifications in the future as load growth continues in Wyoming and Colorado.

Considering the disadvantages associated with this alternative, the disadvantages of higher transmission losses, less reliability, and limited power transfer capability, REA concluded that this alternative is not a feasible alternative to meet the needs of the participants.

3.5.4 Construct Hayden-Middle Park-Blue River Line Double Circuit 138 kV X 345 kV

Double-circuit 138 kV X 345 kV could be constructed for all or portions of the distance between Hayden and Blue River. Following construction, corresponding sections of the existing 138/115 kV line could then be removed. This alternative would provide the required transfer capability and increased transmission capacity in the Middle Park area.

There would be some environmental advantages to combining the 138 kV line with a new 345 kV line. However, visual impact of the larger, higher towers would increase, and the ROW would be approximately 41 m to 61 m (135 ft to 200 ft). If the existing ROW were not reused, it could revert back to other land uses, depending on the current land use objectives in the area.

There are several disadvantages to this alternative. The existing 138 kV line has over 20 years of remaining useful life. To remove the line would waste the present value of the line. Also, when two circuits are installed on common structures, the potential for simultaneous outages is increased. This situation decreases the reliability of the transmission system.

The construction of double-circuit lines is more costly than single-circuit lines. Double circuiting the existing 138 kV line with a new 345 kV line would cost approximately \$100,000 per mile more than the preferred alternative with no additional increase in capacity.

As the alternative of double-circuiting at 230 kV, the structures required for this alternative would be higher and more visible than those needed for a single-circuit line.

The disadvantages of this alternative render it much less desirable than the proposed action.

3.5.5 Construction of Hayden to Blue River Line

Studies conducted by the project participants have confirmed that the construction of a transmission line between Hayden and the lower Blue River Valley is the most practicable alternative to transfer power in meeting needs in the project area. This alternative would 1) provide a backup transmission path to serve Tri-State's and Platte River's eastern Colorado loads, 2) satisfy the long-term needs in meeting the energy requirements in the project area, 3) improve system reliability in the Hayden, Middle Park and Dillon areas, 4) improve system stability for the Craig and Hayden Generating Stations, 5) leave the existing 115 kV and 138 kV lines in operation providing additional transmission capacity which would act as backup transmission during an outage on another line, and 6) relieve the heavy loading of the existing Western Hayden - Green Mountain 138 kV line.

The construction of a new transmission line could significantly affect the physical and human environment. Visual impact and land use conflicts are two of the most important adverse effects of any new transmission line construction.

There is one alternative (No. 3, Table 2) that would cost less than the proposed alternative. However, this alternative (Section 3.5.3) would present several disadvantages in meeting the specific needs outlined in Sections 2.2 and 2.3 for the project. The cost of Hayden to Blue River transmission project is estimated at \$28.8 million (1981 dollars). This alternative would result in additional cost to provide power to the participant's consumers. However, it is considered the best available practicable alternative to meeting the long-term needs in a cost-effective manner.

3.5.5.1 Corridor Alternatives

3.5.5.1.1 Corridor Selection Process

The methodology used to select alternative corridors consisted of a two phase process. During Phase I of the study process, feasible transmission line corridors (candidate corridors) were identified and the specific segments were delineated with respect to environmental issues relating both to physical and human environments. In Phase II of the study process, these candidate corridors were compared on the basis of environmental, engineering and economic factors. In addition to the above factors, Federal, State and local regulations were applied in evaluating the corridor alternatives.

Details of the Phase I study process are presented in Figure 5-1 of the attached EA (Section 10.0, Appendix 1). The process led to the identification of viable candidate corridors in the project area. A computer map overlay method was employed to identify the environmentally sensitive areas. Thus, two sets of suitability maps were developed based on the subjective values obtained in a series of workshops (called Delphi Sessions) from agency personnel (Federal, State, etc.) and subjective public values. The final maps were then produced to identify the relative suitability of the land for transmission line corridors. The corridor suitability maps were based on the following concerns: (1) land use, (2) visual, (3) soil, (4) cultural, and (5) wildlife.

Having identified the candidate corridors in Phase I, engineering and economic factors and environmental constraints were used to examine the candidate corridors in Phase II. Details of the Phase II study process are presented in Figure 5-13 of the attached EA (Section 10.0, Appendix 1). The following features were used to compare viable candidate corridors: geotechnical, ecological, land use, visual, cultural, socioeconomic and engineering. The evaluation of candidate corridors was based on residual impacts consisting of primary and secondary issues.

Environmental assessments were most significant in selection of the corridors. The major environmental issues evaluated are listed below by resource:

1. Geotechnical Features
 - a) Faults
 - b) Potential seismic activity areas
 - c) Soil erosion potential
 - d) Mass movement areas (landslides)
2. Ecological Resources (Flora and Fauna)
 - a) Plant communities
 - b) Critical habitat for important/sensitive species
 - c) Threatened and endangered species
 - d) Wetlands
3. Land Use
 - a) Urban and residential development
 - b) Recreation
 - c) Mining
 - d) Agriculture
 - e) Timber/Timber harvest
 - f) Transportation facilities
 - g) Open space
 - h) Prime farmlands
 - i) Wetlands and floodplains
4. Visual Resources
 - a) Scenic quality
 - b) Visibility/Sensitivity
 - c) Visual quality objectives
 - d) Visual absorption capability
5. Cultural Resources
 - a) Archaeological sites
 - b) Historic sites
6. Socioeconomic Resources

Corridor segments which comprise the subcorridors are shown in Figure 5-18 of Appendix 1 (Section 10.0). In order to evaluate all possible subcorridors, the subcorridors were grouped into three reaches: 1) an upper reach, 2) a middle reach and 3) a lower reach. All possible routes through each reach were identified and are listed in Table 5.4-1 of Appendix 1 (Section 10.0). Potential for major impacts were evaluated for the corridor segments. There were 32 subcorridors that were evaluated for the selection of the preferred corridors. The subcorridor evaluation was based on the major issues and concerns considering mitigation measures and residual impacts. Most major impacts would either be avoided or mitigated by implementing the measures outlined in Section 6.0 of this report, leaving only unavoidable residual impacts as the basis for evaluating the subcorridors.

To provide a basis for evaluation of the 32 subcorridors, shown in Section 10.0, Appendix 1 (Table 5.4-1 and 5.4-2), the following procedures were used. For land use and ecological resources, the percent of each subcorridor occupied by the various subissues was identified. These values were then multiplied by the higher of the two Delphi values (agency or public value) for the subissue. The resulting values for each of the subissues were added to get a total for the main issue for each subcorridor. The totals for each issue within a reach were then arithmetically divided into four groups designated as excellent (E), good (G), fair (F) and poor (P), with (E) having the lowest values and therefore the highest suitability.

Due to the nature of the data, visual resources and geotechnical issues were analyzed differently than land use and ecology. For visual resources, the percent of each subcorridor occupied by each of the five constraint categories, preservation, maximum, major, moderate and minimal, were assigned values of 5, 4, 3, 2, and 1, respectively. These values were then multiplied by the percent of the corridor occupied by each constraint category. The resulting values were added and divided by five to get a value for each subcorridor as shown in Table 3. The subcorridors within a reach were then determined to be excellent, good, fair or poor as described above.

The geotechnical issue was evaluated in a manner similar to that used for visual resources, except the soil sensitivity categories of high, medium and low were assigned values of 3, 2 and 1, respectively.

Each subcorridor was evaluated with regard to cultural resources in the following manner. A corridor segment was rated as excellent when no archaeological or historic sites were known to exist in the segment. A rating of good indicates one or two sites known to exist in the corridor segment. A rating of fair indicates several scattered sites which are possible to work around in project siting. A rating of poor indicates clustered sites that would be difficult to work around. Each subcorridor was given the same rating as the lowest-rated segment within the subcorridor. For example, if a subcorridor contained one segment rated excellent, two rated good, and one rated poor, the subcorridor would be rated as poor.

TABLE 3
Composite Ranking of Subcorridors

	GROUP	SUBCORRIDOR	SEGMENTS	COMPOSITE RATING	GROUP RANKING	SUB-CORRIDOR SELECTION
UPPER REACH: CORRIDOR MUST PASS THROUGH SEGMENTS 1 OR 2 TO BE VIABLE	A	1	1,6,8,11,12N	19.1	5	
		2	1,6,8,11,12S	21.2	6	
		3	1,6,9,11,12N	18.7	3	4 for
		4	1,6,9,11,12S	18.7	4 ^{a/}	Corridor
		5	1,6,9,7,10,12N	16.2	1 ^j	B
		6	1,6,9,7,10,12S	18.3	2	
MIDDLE REACH CORRIDOR MUST PASS THROUGH SEGMENTS 15 OR 16 TO BE VIABLE	B	7	2,5	26.8	11	
		8	2,3,6,8,11,12N	25.6	9	
		9	2,3,6,8,11,12S	27.7	12	
		10	2,4,7,9,11,12N	24.9	8	
		11	2,4,7,9,11,12S	26.9	10	
		12	2,4,7,10,12N	20.4	1	
		13	2,4,7,10,12S	24.4	7	12 for
		14	2,3,7,10,12N	22.4	3	Corridor A
		15	2,3,7,10,12S	20.6	2	
		16	2,4,7,6,8,11,12N	23.6	6	
		17	2,4,7,6,8,11,12S	27.9	12	
		18	2,3,7,9,11,12N	22.9	4	
		19	2,3,7,9,11,12S	23.1	5	
MIDDLE REACH CORRIDOR MUST PASS THROUGH SEGMENTS 15 OR 16 TO BE VIABLE	C	20	13,16,17N	30.1	2	
		21	13,16,17S	23.9	1	21 for
		26	13,14,16,17N	28.0	b/	Corridor A
		27	13,14,16,17S	23.9	b/	
MIDDLE REACH CORRIDOR MUST PASS THROUGH SEGMENTS 15 OR 16 TO BE VIABLE	D	22	14,15,17N	21.6	2	
		23	14,15,17S	19.5	1	22 for
		24	13,14,15,17N	26.8	4	Corridor B
		25	13,14,15,17S	26.9	3	
LOWER REACH: CORRIDOR MUST PASS THROUGH SEGMENTS 22 OR 23 TO BE VIABLE	E	28	19,20,23,24	14.3	1	
		30	18,22,21,20,23,24	21.0	2	28 for Corridor A
LOWER REACH: CORRIDOR MUST PASS THROUGH SEGMENTS 22 OR 23 TO BE VIABLE	F	31	19,20,21,22,24	24.7	1	32 for
		29	18,22,24	34.8	3	Corridor B
		32	18,21,22,24	37.8	2 ^{a/}	

^{a/} Subcorridors with higher ranking are not mutually-exclusive, so are not viable alternatives

^{b/} These subcorridors were only viable if subcorridor 7 was selected as one of the preferred subcorridors in the upper reach

INCLUDE PERMITS
EVALUATION OF
DEVELOPMENT OF
CORRIDOR SELECTION

Comparison of Table 5.4-1 to Figure 5-18 in Tri-State's EA (Section 10.0, Appendix 1) reveals that, to pass through the upper reach, either segment 1 or segment 2 must be traversed. The same is true of segments 15 and 16 in the middle reach and segments 22 and 23 in the lower reach. In the upper reach, group A represents subcorridors passing through segment 1, and group B represents subcorridors passing through segment 2. Subcorridors passing through segment 15 appear in group D. Group E subcorridors pass through segment 23 while group F does not.

The highest-rated subcorridors from each group in each reach were compared to determine the preferred subcorridor. For example, subcorridor 5 has the most favorable rating in group A and subcorridor 12 looks best in group B (See Table 3). Analyses of potential impacts and residual effects after mitigation shows subcorridor 12 to be preferred alternative over subcorridor 5 (Table 4). With the selection of subcorridor 12, subcorridors 3, 5 and 6 in group A cannot be selected because they are not mutually exclusive from subcorridor 12.

The middle and lower reach subcorridors were compared in the same fashion. Preferred subcorridors were then linked together to form the preferred corridor. The two most preferred corridors (Corridor A and Corridor B) are shown in Figure 2 of this report. Based on the information presented in Table 3, it is possible to form transmission line corridors different from Corridors A or B utilizing the various combinations of the subcorridors.

Composite ratings shown on Table 3 were derived by assigning the number 1 to excellent, 2 to good, 3 to fair and 4 to poor. For each issue, the highest importance ratio assigned in the Delphi sessions was applied and the issue values were totaled to form the composite rating.

IS THIS
Delphi
Value
100-200
100-200

EXPLAN Delphi Method + Delphi - own scores

WHICH REACH... IN A CORRIDOR...
(...?)

WHAT IS DIFF. BETWEEN IMPORTANCE RATIO & ISSUE VALUE?



HAYDEN- BLUE RIVER TRANSMISSION PROJECT



PREFERRED CORRIDORS

- CORRIDOR A
- - - CORRIDOR B
- SEGMENT DELINEATION

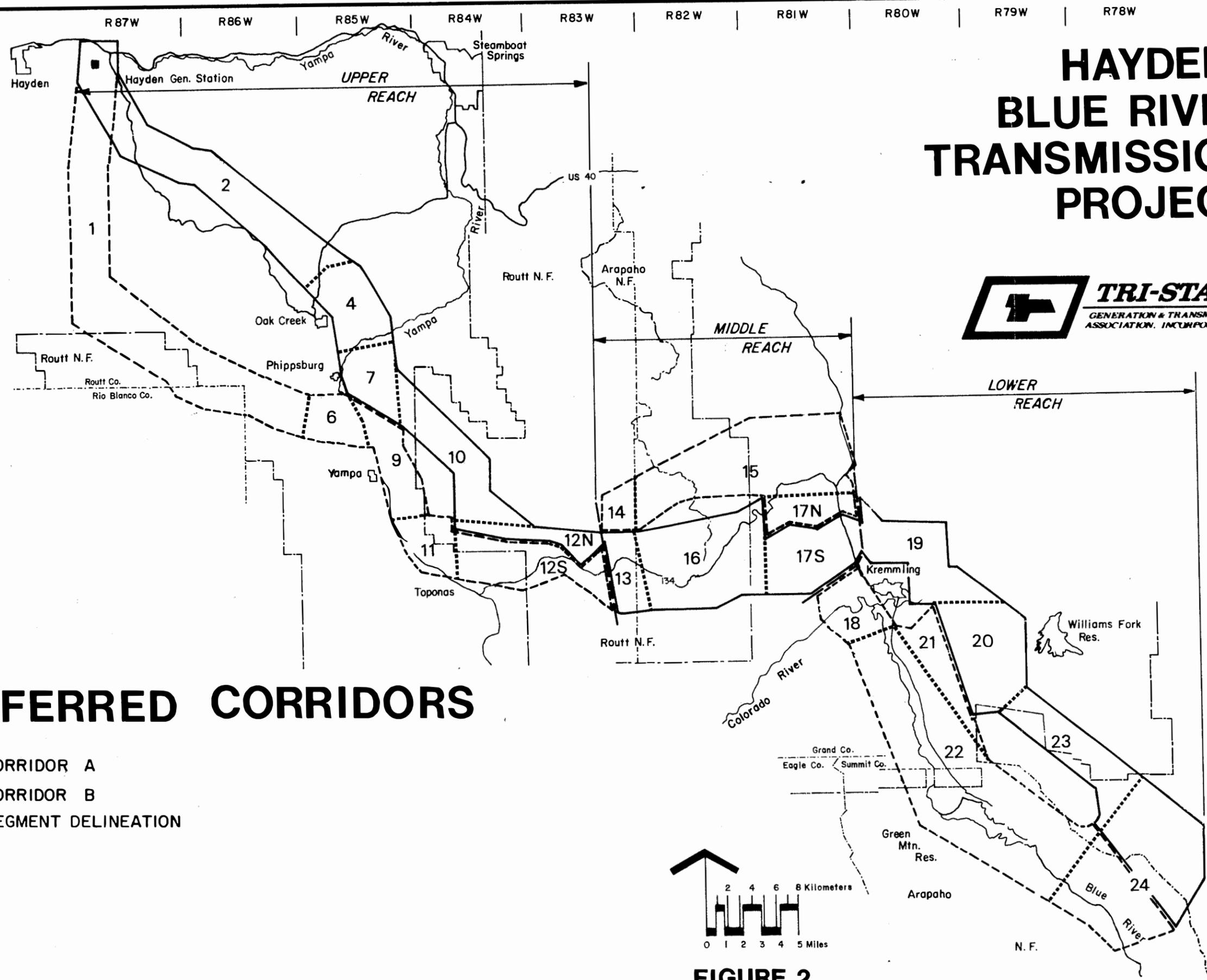
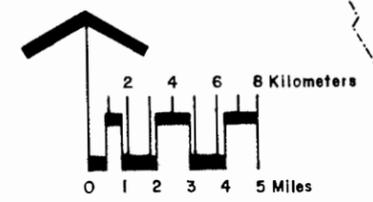


FIGURE 2



3.5.5.1.2 Residual Impact Ratings

Table 3 is based on subcorridor sensitivities alone. In order to compare the residual effects of the proposed facility in one subcorridor to another, the potential success of mitigation must be considered.

The following is a summary, subcorridor by subcorridor, of significant sensitivities and potentials for success in mitigating conflicts with those sensitivities

Upper Reach: Corridor A

HOW DOES THIS FIT INTO COMPOSITE RATING IN TABLE 3?

1. Adjacent to and generally seen from the industrial communities of Oak Creek and Phippsburg, and potential growth of the dormant Stagecoach resort community.

Mitigation

Siting to minimize silhouetting the facility on the skyline. Siting to optimize geographic and vegetative variety. Material specifications to ensure dull finish and dark color. Postconstruction reclamation of disturbed soils will overcome color contrast.

Residual

Facilities would be seen from these communities. Natural form, line, color and texture can be seen through the lattice structure. Dark finished materials minimize color contrast and overall visibility. With application of careful siting the facility would not attract attention to itself.

2. There are two areas of several hundred hectares (acres) in this subcorridor where timber has been harvested.

Mitigation

Coordinated planning of timber harvest and powerline construction and maintenance of access roads to optimize mutual benefit.

Residual

These two areas generally would require less tree clearing (topping) than nonharvested areas. Construction and maintenance crews can use some of the access roads used for the timber harvest activity. At the lower end of this subcorridor, there is an area of planned timber harvest. There may be some opportunity to share access roadways between this activity and the construction and maintenance of the proposed facility.

3. This subcorridor is generally visible for a 16 km (10 mi) stretch along Colorado Highway 131.

Mitigation

See #1 above.

Residual

The facility would be visible to the motorists for some 16 km (10 mi) along this highway. However, while the upper reach of Corridor A lies generally east of Highway 131, the viewers' eyes are drawn to the more

spectacular eastern rim of the Flattops Wilderness area. The viewers' eyes are not drawn to the general location of the subcorridor. The facility would not draw attention to itself as described in No. 1 above.

4. A portion of this subcorridor is visible from the defunct Stagecoach Ski Area.

Mitigation

See #1 above.

Residual

Although the segment would be visible, it would not attract attention to itself. Presently there is no indication that the ski area will ever be redeveloped.

5. The Muddy Slide, a geologic feature inventoried as having potential for designation as a National Natural Landmark, lies on the edge of this subcorridor.

Mitigation

Ample opportunity exists to avoid conflict with this feature when siting the proposed facility.

Residual

There is none.

6. Some 37 km (23 linear mi) of this subcorridor are encumbered with existing electric transmission and subtransmission facilities. Approximately 27 km (17 linear mi) of this subcorridor are free of any major linear utility encumbrances.

Mitigation

There is none.

Residual

Encumbrance of some 27 km (17 linear mi) of the corridor segment not now encumbered with linear facilities.

7. A minimum of nine County road crossings and one State highway crossing would be required to traverse this subcorridor.

Mitigation

Crossing sites will be located to minimize the visual obtrusiveness of the facility. Alignment of the facility will be as near perpendicular to the roadway as practicable. Crossing of horizontal curves will reduce viewing time. Terrain and vegetative screening will be optimized. Skylining in the foreground viewshed will be minimized.

Residual

There will be at least nine visible County road crossings.

Upper Reach: Corridor B

1. This subcorridor passes within sight of the agricultural communities of Yampa and Toponas.

Mitigation

See upper reach, Corridor A, #1.

Residual

The facility could be seen from these communities. Also see residual of upper reach, Corridor A, #1.

2. The subcorridor is generally visible for a 27 km (17 mi) stretch along Colorado Highway 131 and for a 13 km (8 mi) stretch along Colorado Highway 134.

Mitigation

See upper reach, Corridor A, #1.

Residual

The facility would be visible to the motorists for some 27 km (17 mi) along Highway 131 and/or for some 13 km (8 mi) along Highway 134. Also see upper reach, Corridor A, #3.

3. The Eagle Rock Lakes, a series of privately-owned natural and man-made lakes and ponds, operated as a commercial fishing resort, lie within this subcorridor.

Mitigation

See upper reach, Corridor A, #1.

Residual

Because of the configuration of this resort and its position within the subcorridor, the proposed transmission line would encroach on some foreground view from the resort. Because of the large scale of the transmission line, it would dominate the foreground views.

4. There are four active golden eagle nests and one bald eagle roost site in this subcorridor.

Mitigation

Construction and routine maintenance will be scheduled to avoid disturbance of these raptors during their nesting season. Opportunities exist to avoid these nests when siting the facility.

Residual

There is a potential for accelerated mortality due to illegal shooting of raptors along roadways.

There is a potential for disturbance should unscheduled maintenance be necessary during the nesting season.

There is a potential for some mortality to raptors due to their striking the wire.

5. This subcorridor contains significantly more wetland than the opposing upper reach of Corridor A. This presents greater wire-strike mortality exposure to waterfowl.

Mitigation

Siting will be done away from wetlands as far as is practicable.

Residual

There is a potential for some mortality to waterfowl due to their striking the wire.

6. Some 29 km (18 mi) of subcorridor are encumbered by electric transmission and subtransmission lines. A proposed high-pressure natural gas line shares subcorridor encroachment with the electric facilities for some 24 km (15 linear mi) extending by itself for an additional 27 km (17 linear mi). Some 18 km (11 linear mi) of this subcorridor remains unencumbered by major linear utilities.

Mitigation

There is none.

Residual

Encumbrance of some 18 km (11 linear mi) of this corridor segment not now encumbered with linear facilities (existing or planned).

7. A minimum of ten County road and three State highway crossings would be necessary to traverse this subcorridor. Due to terrain constraints, it is reasonable to believe that additional County road crossings would be required.

Mitigation

See upper reach, Corridor A, #7.

Residual

There will be at least 13 visible highway crossings.

8. Significantly more unavoidable skylining is found in this subcorridor than in the opposing upper reach of Corridor A.

Mitigation

Minimize skylining through careful siting

Residual

There will be some skylining in foreground and middleground viewsheds.

Middle Reach: Corridor A

1. Colorado Highway 134 traverses some 29 km (18 mi) of this subcorridor while the subcorridor is generally visible from some 8 km (5 mi) of US Highway 40.

Mitigation

The use of terrain and natural vegetation provide opportunities to screen the transmission facility from these highways, except where highway crossings are necessary. See also mitigation for upper reach, Corridor A, #7.

Residual

Highway crossings will be visible.

2. There are seven National Forest campgrounds in this subcorridor.

Mitigation

See middle reach, Corridor A, #1.

Residual

There is none.

3. The State of Colorado is planning a small dam and pool on Rock Creek within this subcorridor. The development is intended to provide productive fishery resources and accommodate recreationists.

Mitigation

See middle reach, Corridor A, #1.

Residual

There is none.

4. Some 11 km (7 linear mi) of this subcorridor are encumbered by existing electric transmission lines. These 11 km (7 mi) and an additional 13 km (8 linear mi) of the subcorridor are encumbered by a proposed high-pressure natural gas line.

Mitigation

There is none.

Residual

There is none.

5. A minimum of one County road crossing, one State highway crossing and one US highway crossing would be required to traverse this subcorridor.

Mitigation

See upper reach Corridor A, #7.

Residual

There will be at least three visible highway crossings.

Middle Reach: Corridor B

1. This subcorridor is traversed by some 13 km (8 mi) of Colorado Highway 134 and is generally visible from a 35 km (22 mi) stretch of US Highway 40.

Mitigation

See middle reach, Corridor A, #1.

Residual

See middle reach, Corridor A, #1.

2. There are significantly more wetlands in this subcorridor than in the opposing middle reach of Corridor A.

Mitigation

The facility will be sited away from wetlands as far as is practicable.

Residual

There is a potential for some waterfowl mortality due to striking the wire.

3. This subcorridor is encumbered by some 24 km (15 linear mi) of existing electric transmission and subtransmission lines. Some 21 km (13 linear mi) of this subcorridor remain unencumbered by major linear utilities.

Mitigation

There is none.

Residual

Encumbrance of some 21 km (13 linear mi) of this corridor segment not now encumbered with linear facilities.

4. A minimum of one County road crossing and three State highway crossings would be necessary to traverse this subcorridor.

Mitigation

See upper reach, Corridor A, #7.

Residual

At least four highway crossings will be visible.

Lower Reach: Corridor A

1. Portions of this subcorridor are visible from the town of Kremmling.

Mitigation

Topographic features within this subcorridor provide ample opportunity for siting the facility so that it would not be seen from Kremmling.

Residual

There is none.

2. The facility would be highly visible for a few hundred linear meters (feet) from the upper end of the Copper Creek subdivision.

Mitigation

Siting will optimize terrain and vegetative screening. Materials used will be dark and nonspecular.

Residual

The facility will be visually dominant to a few homesites for several meters (feet) in the foreground.

3. Long-range timber harvest plans include much of the National Forest land in this subcorridor and may spread onto the AMAX holdings within this subcorridor.

Mitigation

See upper reach, Corridor A, #2.

Residual

See upper reach, Corridor A, #2.

4. US Highway 40 crosses this subcorridor in a generally perpendicular fashion. The subcorridor is generally visible for some 48 km (30 mi) along County roads carrying industrial, agricultural and recreational traffic.

Mitigation

The facility would be sited to minimize silhouetting on the skyline.

Siting would maximize use of terrain and vegetative variety. Material specifications would ensure nonspecular surfaces and maximize the use of dark-colored materials.

Disturbed ground would be reclaimed. Contours will be restored to be compatible with surrounding topography. Vegetation will be restored to replicate surrounding color and texture.

Residual

The viewers' eyes are not generally drawn to the location of this subcorridor. Surrounding terrain features including the Gore Range, Wolford Mountain, Vasquez Mountains and Byers Peak draw the viewers' attention.

5. Wolford Mountain, a geologic feature inventoried as having potential for designation as a National Natural Landmark, is on the edge of this subcorridor.

Mitigation

Siting opportunities allow for avoidance of physical conflict with this feature. However, the subcorridor is visible from this feature (see upper reach, Corridor A, #1 Mitigation). The National Park Service will evaluate and make recommendations regarding the suitability of this mitigation.

Residual

Residual impact will be based on recommendations of the National Park Service and will be acceptable to the National Park Service.

6. The Grand County Commissioners have identified the potential for an irrigation storage pool on Muddy Creek in this reach. No information beyond this concept has been provided.

Mitigation

None is known.

Residual

None is known.

7. Williams Fork Reservoir, a municipal water storage facility heavily used by boaters and fisherman, lies within a mile of this subcorridor.

Mitigation

In spite of this reservoir's proximity to this subcorridor, very little of the subcorridor is visible from the reservoir. Mitigation would proceed as outlined under #4 above.

Residual

There is none.

8. There are two active golden eagle nests in this subcorridor.

Mitigation

See upper reach, Corridor B, #4.

Residual

See upper reach, Corridor B, #4.

9. This subcorridor is encumbered by some 16 km (10 linear mi) of electric transmission facilities. A natural gas line encumbers another 8 km (5 linear mi). Some 24 km (15 linear mi) of this subcorridor remains unencumbered by major linear utilities.

Mitigation

There is none.

Residual

Encumbrance of some 24 km (15 linear mi) of this subcorridor segment not now encumbered with linear facilities.

10. A minimum of three County road crossings and one US Highway crossing would be required to traverse this subcorridor.

Mitigation

See upper reach, Corridor A, #7.

Residual

At least four highway crossings will be visible.

Lower Reach: Corridor B

1. The potential Gorewood Estates subdivision and the Spring Creek subdivision intrude into this subcorridor. The Blue Valley Acres 1 and 2 subdivisions and the community of Heeney are within this subcorridor. The facility is visible from the town of Kremmling.

Mitigation

See upper reach, Corridor A, #1.

Residual

The facility would be visible from the town of Kremmling, the community of Heeney, the Spring Creek and Blue Valley Acres subdivisions, and from the potential Gorewood Estates subdivision. However, it could be sited to avoid attracting attention to itself. Also see residual impact for upper reach, Corridor A, #1.

2. Colorado Highway 9 traverses this subcorridor for some 39 km (24 mi), while some 27 km (17 mi) of County road carrying recreational, industrial and agricultural traffic lies within the subcorridor.

Mitigation

See lower reach, Corridor A, #4.

Residual

The facility could be sited so as to have intermittent visibility to Colorado Highway 9. Colorado Highway 9 has been proposed for designation as a National Scenic and Recreation Highway. It would, however, be generally visible to the same 27 km (17 mi) of County roadways within the subcorridor.

3. The Gore Range, a geologic feature inventoried as having potential for designation as a National Natural Landmark, lies on the edge of this subcorridor.

Mitigation

See upper reach, Corridor A, #1.

Residual

Although the facility would not encroach physically on this feature, this entire subcorridor is visible from this feature (See upper reach, Corridor A, #1).

4. The Green Mountain Reservoir, a power and reclamation project heavily used by boaters, fishermen and general recreationists, lies within this subcorridor.

Mitigation

See upper reach, Corridor A, #1.

Residual

See upper reach, Corridor A, #1.

5. The Blue River, one of Colorado's most popular trout fisheries, runs through some 40 to 48 km (25 to 30 mi) of this subcorridor.

Mitigation

See upper reach, Corridor A, #1.

Residual

See upper reach, Corridor A, #1.

6. The Eagles Nest Wilderness Area lies adjacent to this subcorridor. While the subcorridor does not encroach on the Wilderness Area, the entire subcorridor is visible from the Wilderness Area.

Mitigation

See upper reach, Corridor A, #1.

Residual

See upper reach, Corridor A, #1.

7. Roughly half of this subcorridor is subject to either mass movement (landslides) or high erosion potential.

Mitigation

Avoidance of areas of mass movement (landslides).

Approximately half of the balance of the subcorridor having high erosion potential would require extensive erosion control measures.

Residual

Relatively high risk of decreased productivity due to displacement of fine materials and increased sedimentation of water. Cost will be high for erosion control.

8. There are eight active golden eagle nests and two bald eagle roost sites in this subcorridor.

Mitigation

See upper reach, Corridor B, #4.

Residual

See upper reach, Corridor B, #4.

9. There is significantly more wetlands in this subcorridor than in the opposing lower reach of Corridor A including the Blue River floodplain that extends for most of the length of this subcorridor.

Mitigation

The facility will be sited as far away from wetlands as is practicable.

Residual

There is a potential for some waterfowl mortality due to striking the wire.

10. This subcorridor is encumbered by some 42 km (26 linear mi) of electric transmission and subtransmission facilities.
11. Williams Peak is a rather popular and well-known hang gliding area within this subcorridor.

Mitigation

There is none.

Residual

There is some potential hazard to hang gliders.

12. A minimum of three County road crossings and one State highway crossing would be required to traverse this subcorridor.

Mitigation

See upper reach, Corridor A, #7.

Residual

There will be at least four visible road crossings.

13. Significantly more unavoidable skylining is found in this subcorridor than in the opposing lower reach of Corridor A.

Mitigation

See upper reach, Corridor B, #8.

Residual

See upper reach, Corridor B, #8.

Subcorridor
Buckner
Corridor

14. A segment of the Colorado River, inventoried as having potential for inclusion in the National Wild and Scenic Rivers System, intrudes into this subcorridor. 301+SR

Mitigation

The U.S. Department of the Interior has suggested that the mitigation summarized under upper reach, Corridor A, #1 will result in compliance with the National Wild and Scenic Rivers System.

Residual

The facility would be seen from the inventoried section of the Colorado River; however, implementation of the mitigation described in Section 6.0 will result in no significant effect on eligibility.

Table 4 on the following page summarizes the residual effects expected in each of the reaches of Corridors A and B.

TABLE 4
SUMMARY OF RESIDUAL IMPACTS ON CORRIDOR REACHES

ISSUE	UPPER A	UPPER B	MIDDLE A	MIDDLE B	LOWER A	LOWER B
SEEN FROM:						
Oak Creek	---					
Phippsburg	---					
Stagecoach	---					
Colorado 131	16 km (10 mi)	27 km (17 mi)				
Yampa		---				
Toponas		---				
Colorado 134		13 km (8 mi)				
Eagle Rocks Lakes		----*				
Copper Creek Subdiv.					----*	
County Roads		---			48 km (30 mi)	27 km (17 mi)
Gorewood Estates						---
Spring Creek						---
Blue Valley Acres						---
Heeney						---
Kremmling						---
Colorado 9						39 km (24 mi)
Green Mtn. Reservoir						---
Blue River						---
Wilderness Areas						---
TIMBER HARVEST:						
Previous	+					
Planned					+	
ENCUMBERED:						
Electric	37 km (23 mi)	29 km (18 mi)	11 km (7 mi)	24 km (15 mi)	16 km (10 mi)	42 km (26 mi)
Gas		51 km (32 mi)	24 km (15 mi)		24 km (15 mi)	
NON-ENCUMBERED	27 km (17 mi)	18 km (11 mi)		21 km (13 mi)	24 km (15 mi)	

3-24

TABLE 4 (continued)

ISSUE	UPPER A	UPPER B	MIDDLE A	MIDDLE B	LOWER A	LOWER B
ROAD CROSSINGS:						
County	9	10	1	1	3	3
State	1	3	1	3		1
U.S.			1		1	
EAGLES:						
Active Golden Eagle Nest		4			2	8
Bald Eagle Roost		1				2
WETLANDS		—		—		—
SKYLINING		—				—
NAT'L LANDMARKS					1	1
WOLFORD RESERVIOR					—	
UNSTABLE SOILS						—
HANG GLIDING						—
NAT'L SCENIC HIWAY						—
INVENTORIED NAT'L SCENIC RIVER						—

SEE NOTES ON FOLLOWING PAGE FOR EXPLANATION OF SYMBOLS

3-25

WHY IS THERE NO FLOODPLAIN IMPACT MENTIONED WITHIN p 3-2
 #9 states the route flanks the BLUE RIVER floodplain almost the entire
 route of the subcorridor.

TABLE 4 (continued)

NOTES

- A minus sign in a column denotes a reach which will incur greater residual impact than its opposing reach for a particular issue. For example, there will be more skylining incurred if the proposed line is routed in the upper reach of Corridor B than there will be if it is routed in the upper reach of Corridor A; therefore, Corridor B has a minus sign under this category. This does not mean that there will be no skylining in the upper reach of Corridor A; it means only that the skylining effect will be greater in the upper reach of B.
- * This symbol denotes extreme residual effect, greater than what can be expected in other areas which will have residual effects.
- + There are two issues which can be positive in their effects on the corridor ratings: Timber harvest and encumbrances with existing utilities. Timber harvest is shown as positive (+) in the reaches where more of this land use exists or is planned. Opposing reaches may have some of this land use, but not as much as those designated with +. Mileage is given for encumbrances in the reaches to better compare the reaches. (The same is true for nonencumbered lands and views from roads).

Table 4 is a summary of expected residual effects to various resources. It is intended to be used along with the narrative summary of residual effects which precedes it, to give the reader a complete understanding of the expected adverse effects of constructing the proposed project in the various corridor reaches.

3.5.5.2 Construction Method Alternatives

3.5.5.2.1 Underground Construction

The underground construction of a high voltage transmission line would be particularly desirable in scenic or densely populated areas because it would have less visual impact and would require a narrower ROW than an overhead line. Another advantage for the underground system is that it is less susceptible to damages from severe weather conditions than an overhead transmission line.

The underground method of conductor installation creates a problem in locating and repairing transmission line faults. Construction costs usually run 10 to 20 times higher than those of overhead construction. Also, the time and cost to repair faults would be greatly increased. None of the participants in the project have underground maintenance capability. Further, some method of cooling must be employed. The potential for coolant leaks (hazardous spills) is ever present. Even if the exorbitant expense were acceptable, not all environmental impacts would be precluded with the underground construction. For example, underground installation of the line would require complete removal of the vegetation; in the case of line failure, the use of heavy construction equipment on the ROW would be required; and pumping stations would have to be placed aboveground at regular intervals along the alignment.

Therefore, installation of underground 345 kV transmission facilities is not considered to be a feasible alternative.

3.5.5.2.2 Overhead Construction

The Hayden to Blue River line is proposed to be constructed overhead, possibly using a combination of conventional and helicopter construction. The use of helicopters may be necessary to carry out construction in environmentally sensitive areas and/or to maintain required construction schedules.

3.5.5.3 Transmission Line Design Alternatives

3.5.5.3.1 Line Voltage

The Hayden to Blue River line is proposed to be constructed at 345 kV and initially energized at 230 kV. Lower voltage levels such as 115 or 230 kV were considered and evaluated to meet the short-term needs. Because of the continued increase of energy demands in northwestern Colorado, particularly in the recreational, commercial, residential and energy-related industries, it was determined that the line should be designed and constructed at a higher voltage level, preferably at a 345 kV level. Another important point of consideration was that the majority of future high voltage transmission lines in the area are proposed to be built at 345 kV levels. Therefore, the 345 kV level for the Hayden to Blue River line would be compatible with the other bulk transmission system in the area. The use of a lower voltage system might result in more environmental impact, less operating efficiency and would require higher construction and operation costs for compatible capacity. Therefore, a 345 kV line voltage was selected in order to provide power for future growth.

3.5.5.3.2 Structures

Several types of support structures have been evaluated for use on the proposed Hayden to Blue River transmission line. The following table summarizes the environmental and economic aspects of these structure types for a 345 kV line (Table 5).

Self-supporting steel lattice towers for the 345 kV line are generally preferred because they require no guy wires, require fewer structures per unit distance compared with wood structures, are able to withstand severe weather conditions, and are better suited for rugged terrain because the design can easily be modified to suit specific structure site locations. In the interim since the DEIS was issued, Tri-State has made more refined engineering and economic calculations. This has resulted in a change in the tower configuration. It is anticipated that the general tower to be used for construction will be as depicted in Figure 3.

The aboveground height of such structures would range from 26 m (85 ft) to 40 m (130 ft). A minimum clearance of 10.7 m (35 ft) between the ground and conductors at 49.9°C (120° F) conductor temperature will be maintained. Distances between structures will be approximately 442 m (1,450 ft). The required ROW would normally vary from 41 m (135 ft) to 61 m (200 ft).

3.5.5.3.3 Direct Current Construction

The application of direct current (dc) transmission is not a viable alternative for this project because of prohibitive costs with no corresponding reduction in environmental impacts. The application of dc is generally limited to transporting large blocks of power over substantially longer distances than required by the proposed project. Therefore, the ac transmission line was selected for the project.

3.6 Substation Sites

3.6.1 Hayden Substation

The proposed Hayden to Blue River transmission line will interconnect the Hayden, Middle Park and Blue River Substations. The line will originate at Western's existing Hayden Substation which is located in the Northeast Quarter of Section 18, Township 6 North, Range 87 West in Routt County, Colorado. Western has provided an additional bay and associated bus work at the Hayden Substation to accommodate the proposed transmission line.

Since this substation already exists and it is able to provide terminal facilities for the proposed Hayden to Blue River transmission line project, there is no other location which would serve the project purposes with less impact, because no additional construction will be required at the Hayden Substation. Western investigated the environmental impact associated with the Hayden Substation additions required to connect the proposed Hayden to Blue River line and determined that the additions would not have a significant effect on the quality of the environment. A Negative Determination of Environmental Impact was issued by Western on March 24, 1978 (Western Area Power Administration letter, dated March 10, 1982, Section 10.0, Appendix 4).

TABLE 5

CHARACTERISTICS OF TRANSMISSION LINE STRUCTURES

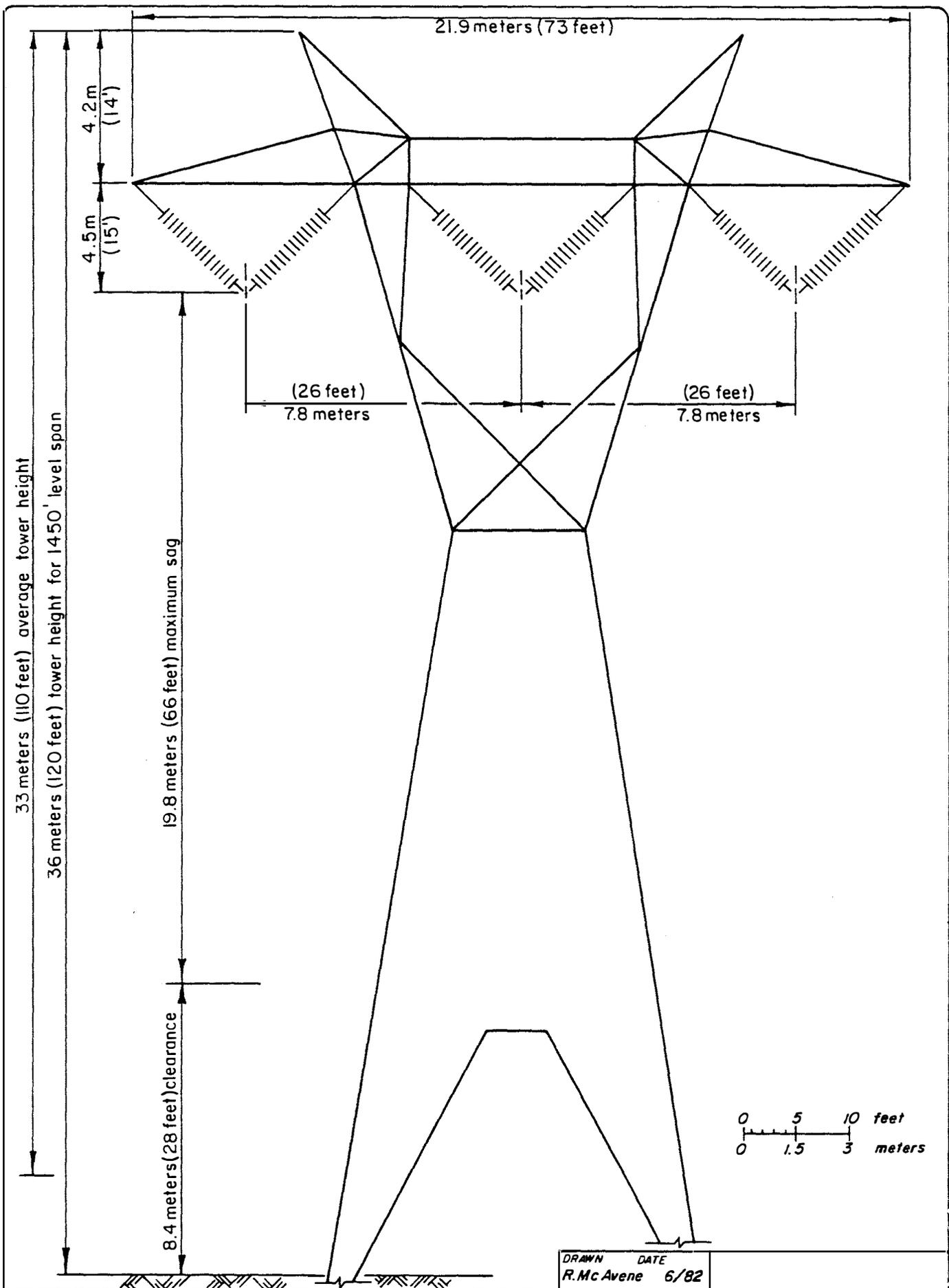
Characteristics	Structure Type				
	1	2	3	4	5
Average Structure Height (aboveground)					
Meters	24-34	27-40	27-40	26-40	27-40
Feet	80-110	90-130	90-130	85-130	90-130
Average Span					
Meters	244	305-366	300-400	400-500	400-500
Meters	800	1000-1200	1300-1650	1300-1650	1200-1650
Number of Structures					
per km	4-5	3-4	3	2.5-3.5	3
per mi	7-8	5-6	4	3.5-4.5	4
Right-of-way width					
Meters	46	38	61	41-61	61
Feet	150	125	200	135-200	200
Land Area/Structure ^{a/}					
Square meters	14-19	3-4	14-19	53-177	56-111
Square feet	150-200	30-40	150-200	575-1900	600-1200
Guying Requirements	Deadend & angle structures	NO	Deadend & angle structures	NO	NO
Cost (\$1981)					
per km	124,500	195,800	131,500	149,500	185,500
per mi	200,300	315,200	211,700	240,600	298,600 ^{b/}

- 1 - Wood K-Frame
- 2 - Single-Pole Tubular Steel
- 3 - Steel-Lattice H-Frame
- 4 - Self-Supporting Steel Lattice
- 5 - Self-Supporting Aluminum Lattice

^{a/} - Does not include area encumbered by guy wires

^{b/} - Does not include insulation and hardware for additional structures or additional weight for angle structures

WAP-712
1981



33 meters (110 feet) average tower height
 36 meters (120 feet) tower height for 1450' level span

19.8 meters (66 feet) maximum sag

8.4 meters (28 feet) clearance

21.9 meters (73 feet)

4.2m (14')

4.5m (15')

(26 feet)
7.8 meters

(26 feet)
7.8 meters

0 5 10 feet
 0 1.5 3 meters

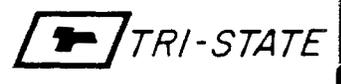
PROJECT

FIGURE 3
TYPICAL SUSPENSION TOWER

DRAWN DATE
 R. Mc Avene 6/82

CHECKED DATE

APPROVED DATE



3.6.2 Proposed Middle Park Substation

4-5 acres

The proposed Hayden to Blue River line would interconnect the existing transmission system in the Middle Park area in the vicinity of Kremmling. This interconnection would allow for increased capacity and system reliability needed in the area served by Tri-State's member, Mountain Parks.

The precise location of the proposed substation cannot be determined until transmission line siting begins on the Hayden to Blue River line. The substation will be located as close as possible to one of the two existing east-west transmission lines in the area: the Gore Pass-Windy Gap line or the Kremmling Tap-Windy Gap line (Figure 6-1 of Appendix 1, Section 10.0). Due to the above constraints and some geographic constraints, any substation site will necessarily be in an area already impacted by similar facilities and/or other comparably significant activities of man.

Other land use in the area is largely range and open space. Vegetation communities common to the area include mountain shrub, sagebrush and grassland. Scattered cultivated croplands occur in the area surrounding Kremmling. Land ownership is predominately Federal (public domain) and private, with some State holdings.

Major big game species in the area are elk and mule deer. Other wildlife found throughout the area include squirrels, coyotes, and blue and sage grouse.

The proposed substation would require an area of approximately 1.6 to 2 ha (4-5 a). The phase spacing, electrical code clearances, and all switches would be designed and constructed for 345 kV operation.

Initial major equipment which would be placed in the Middle Park Substation include the following:

1. three 230 kV power circuit breakers;
2. one 230/138 kV power transformer;
3. three 138 kV power circuit breakers; and
4. associated bus work, metering and relay equipment, security fence, control house, ground cables and concrete, as required.

3.6.3 Proposed Blue River Substation

- 4.2 acres

The southern termination point of the Hayden to Blue River transmission line would be the proposed Blue River Substation, to be designed and constructed by PSCo in Summit County, Colorado. The proposed substation would require a fenced area of approximately 150 m by 110 m (500 ft by 366 ft), or 1.7 ha (4.2 a). The initial equipment area within this fenced perimeter would occupy approximately 0.8 ha (2 a). The fenced yard would accommodate all equipment needs anticipated for all project participants in the foreseeable future.

Vegetation of the area includes forested areas containing numerous tree species such as lodgepole pine, Douglas fir and aspen. The major vegetation outside the forested areas consists of mountain shrub and big sagebrush, with a few irrigated hay meadows scattered throughout the area.

Major wildlife species inhabiting the area include elk, mule deer and bighorn sheep. White-tailed ptarmigan, blue grouse, squirrels, rabbits, red fox, mink and coyotes also inhabit the area.

Seven alternative sites were examined following the development of electrical and interconnection requirements for the proposed substation. PSCo closely coordinated the assessment of potential substation sites with appropriate agencies and landowners. Representatives from FS, the Colorado Division of Wildlife, and the Summit County Planning Department provided input for site assessment. The major environmental and electrical characteristics of the alternative sites which were studied are presented in Table F-1 of Appendix 2 (Section 10.0).

Following the site evaluations and consultations with agency and county representatives, Site No. 1 was selected by PSCo as the preferred location for the proposed Blue River Substation. The site avoids severe conflicts with deer and elk migration routes, and provides better opportunities for mitigation of potential visual effects than do many of the other sites considered.

As mentioned previously, PSCo, a private utility company, will construct the Blue River Substation and has undertaken preliminary engineering work for its construction. It should be pointed out that financing of this substation is independent of REA's financing assistance for the Hayden to Blue River 345 kV line project.

4.0 AFFECTED ENVIRONMENT

The preferred corridors include portions of three Colorado Counties: Grand (46 percent of Corridor A and 32 percent of Corridor B), Routt (53 percent of Corridor A and 56 percent of Corridor B), and Summit (1 percent of Corridor A and 12 percent of Corridor B).

Further information regarding the environment within the project area is provided in Section 4.0 of the EA (Appendix 1, Section 10.0).

4.1 Geotechnical Features

Corridors A and B contain eight and four faults, respectively, which are classified as potentially active. Avalanche and rockfall areas are small in size and are scattered throughout the two corridors. Extensive areas of mass movement are located southwest of Green Mountain Reservoir. Areas of high soil erosion potential are located in all reaches of both corridors.

4.2 Vegetation

The project area has nine major plant communities whose locations are influenced by topography, climate, soils, and present and past disturbances.

4.2.1 Riparian Vegetation

Riparian vegetation, which includes wetlands, occurs along permanent streams such as the Blue, Yampa, Williams Fork and Colorado Rivers. Riparian species include cottonwoods, blue spruce, willow thickets, alders, woods rose, honeysuckle, currant, shrubby cinquefoil, and dogwood.

Due to their species' diversity and structural diversity, riparian areas support a wide variety of animal species. In prairie areas, riparian communities frequently support five to ten times the number of animal species found in the surrounding grasslands and shrublands. They are particularly important to bird species (Tubbs, 1980). Riparian areas in the corridors provide habitat for yellow warbler, Wilson's warbler, Brewer's blackbird, eastern kingbird, great blue heron, muskrat, raccoon, beaver, mule deer and elk.

4.2.2 Big Sagebrush

Big sagebrush communities are composed of a combination of shrubs which include big sagebrush, rubber rabbitbush, Douglas rabbitbush, silver sage and snowberry. Communities are interspersed throughout the corridors, but large areas of big sagebrush are found in the upper and the lower reaches of Corridors A and B.

Big sagebrush communities provide important habitat for several species of animals. Sage grouse and sandhill cranes have breeding grounds within sagebrush communities. Pronghorn antelope and mule deer utilize the sagebrush community year-round. Additionally, areas designated as critical winter range for pronghorn, mule deer, and elk occur in sagebrush

communities. The distribution of these areas which are used during the most severe winters are very limited. As a result, the prevalence of these areas is frequently a limiting factor for the population of these ungulates. Other species typical of sagebrush communities include Western meadowlark, horned lark, Brewer's sparrow, whitetailed jackrabbit, and Richardson's ground squirrel.

4.2.3 Mountain Shrub

The mountain shrub community occurs in the transition zone between the lower elevation sagebrush and the higher forested regions. This community includes a wide variety of shrub species which may include oak, serviceberry, chokecherry, big sagebrush, and gooseberry. Mountain shrubs are located between elevations of 2,100 m (7,000 ft) and 2,700 m (9,000 ft) and can be found primarily in the upper reaches of Corridors A and B.

The majority of the shrubs occurring in the mountain shrub community are excellent forage species for browsing animals such as mule deer, snowshoe hare, and mountain cottontail. Additionally, because the mountain shrub community is in a transition zone, it is frequented by several species which are found in lower elevations such as the morning dove, as well as by species frequently associated with higher elevations such as the mountain bluebird. Other typical species include the lark sparrow, green-tailed towhee, and badger. Mountain shrub communities are used as winter range by mule deer and elk.

4.2.4 Forested Communities

Juniper woodlands are located at elevation levels ranging from 2,100 m (7,000 ft) to 2,400 m (8,000 ft). Small isolated stands occur amid sagebrush. Juniper woodlands are located in the upper reach of Corridor B and the lower reaches of Corridors A and B.

Douglas fir forests occur as small isolated stands between 2,520 m (8,400 ft) and 2,880 m (9,600 ft) in elevation in the Williams Fork Mountains in the lower reaches of Corridors A and B.

Aspen communities are scattered throughout the corridors where elevations range from 2,100 m (7,000 ft) to 3,500 m (10,000 ft). Aspen can be found in the moist habitat of the mountain shrub community at lower elevations and at disturbed conifer habitat at higher elevations.

The primary forest tree that is logged in the project area is the lodgepole pine. This community is located at elevations ranging from 2,400 m (8,000 ft) to 2,700 m (9,000 ft) and is the primary successional species following a fire. Lodgepole pine is located in both the Arapaho and Routt National Forests, especially in the Gore Range (middle reaches of Corridors A and B).

Spruce-fir forests are located at higher elevations ranging from 2,700 m (9,000 ft) to 3,400 m (11,400 ft) and along topographic lows and on north facing slopes at lower elevations.

The fauna of the various forest communities varies somewhat from one community to another. However, these communities have a great deal in common and, therefore, will be discussed as a single unit. Timbered areas provide cover for mule deer and elk. Plants in the understory provide them with some forage, but most of their feeding is done in forest openings where grasses, forbs and shrubs are more abundant. Other typical mammal species include porcupine, red squirrel and red-backed vole which inhabit the area.

Trees in the forest provide nesting sites for branch nesting birds such as Western tanager and gray-headed junco. Snags provide nesting sites for cavity nesting species such as tree swallow, mountain bluebird and hairy woodpecker. Many bird species nest in the trees but feed on the ground in small forest openings. Examples are the robin and yellow-rumped warbler. Thus, the edge between forest and the forest openings is very important because these areas provide both nesting or cover and food for many species of birds and mammals.

4.2.5 Meadow Communities

Meadow communities are highly variable in the project area and are dependent on the amount of moisture available. On poorly drained sites, willows and rushes dominate while on better drained sites the Thuber fescue (grass) is predominant. Meadows are scattered throughout the corridors.

Mule deer, elk and many other species forage in the meadows. Species that usually inhabit meadows include the golden mantled ground squirrel, white-footed deer mouse and white-crowned sparrow.

4.3 Wetlands

Several types of wetlands occur in the two corridors. The majority of these are palustrine. Generally wetlands are those areas where saturation with water is the important factor determining the nature of soil development and types of plant and animal communities living in the soil and on its surface. Wetlands generally include swamps, marshes, bogs and similar areas such as sloughs, potholes, wet meadows, riverflows, mud flats, and natural ponds.

Many of the small temporary wetlands in the area are used extensively by waterfowl during the spring migration. Those wetlands with emergent vegetation such as cattail are used for nesting by mallards and blue-winged teal. These same two bird species will nest under shrubs such as big sagebrush near stockponds. Other species associated with wetlands include yellow-headed blackbird, red-winged blackbird and killdeer.

4.4 Wildlife

As indicated, a high diversity of wildlife can be found within the corridors. Sections 4.2.1 and 4.2.2 of the EA (Appendix 1, Section 10.0) provide a detailed description of the existing or potentially occurring fauna of the region.

Fifty-seven species of mammals have been recorded in the project area. Species discussed in the Environmental Analysis include mule deer, elk, black bear, pronghorn, pine squirrel, beaver, muskrat, grizzly bear, wolverine and lynx.

Two hundred and thirty-four bird species occur in the project area. Birds discussed in the EA (Appendix 1, Section 10.0) include duck, geese, blue grouse, white-tailed ptarmigan, turkey, bald eagle, golden eagle, prairie falcon, peregrine falcon, greater sandhill crane, sage grouse and sharp-tailed grouse.

Important wildlife habitats which occur in the project area are the dancing and nesting areas of the greater sandhill crane, great blue heron rookeries, strutting and nesting areas for the sharp-tailed grouse, raptor nest sites, bald eagle roost sites, elk calving areas and elk and mule deer winter range.

Appendix 2 in Section 10.0 (EA Volume II) lists all of the species of mammals, birds, reptiles and fish expected to occur in the area.

4.5 Threatened and Endangered Species

The two federally listed threatened or endangered species identified by the FWS for the project area are the black-footed ferret and the bald eagle. In addition, unconfirmed reports of the federally listed peregrine falcon have been made from the areas within the corridors.

The major areas of concentration of the bald eagle in the project area occur in Grand and Summit Counties along the Colorado and Blue Rivers and around the Green Mountain Reservoir only during winter months. There are two roost sites south of Kremmling. Bald eagles do not breed in the project area.

While there are no federally-designated threatened or endangered plant species within the corridors, there are four species under study for official designation as endangered, threatened or rare species. These are the Astragalus ousterhoutii, Neoparrya megarrhiza, Penstemon harringtonii, and the Conimitella williamsii. These proposed plants all occur within the lower reaches of Corridors A and B.

4.6 Agricultural Lands

Irrigated cropland is located primarily in floodplains of rivers such as the Colorado, Blue and Yampa Rivers. Upland cropland sites are scattered throughout the upper and middle reaches of Corridors A and B.

Major crops on irrigated lands near streams are hay, grasses and alfalfa, while upland crops are annual grains such as oats and wheat.

The U.S. Soil Conservation Service (SCS) has stated that no prime farmland occurs in either Corridor A or B.

4.7 Mineral Extraction Areas

Active surface coal mines in the corridors include the Seneca Coals, Ltd.'s Seneca Strip #2 mine, the Energy Fuels Corporation's Energy Strip #1 and #2 mines and the Pittsburg and Midway Mining Company's Edna Strip Mine. These are located in the upper reach of Corridor A.

The AMAX Henderson Mill operates a molybdenum mill in the lower reach of Corridor A. Federal and State coal lease lands occur in the upper reaches of both corridors.

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4.8 Water Resources

Major streams in the corridors include the Colorado, Williams Fork, Blue and Yampa Rivers and the Bear, Oak, Martin, Green, Service, Morrison, Muddy, and Middle Creeks. Two large reservoirs, the Green Mountain and Williams Fork Reservoirs, are located in the southeast portion of the project area.

4.9 Formally Classified Areas

The corridors include portions of the Routt and Arapaho National Forests, managed by the FS. The FS has withdrawn several areas of high recreational value from mineral location in the middle reach. The Eagle's Nest Wilderness Area is adjacent to the western limit of the lower reach of Corridor B. National Forest lands south of the Ute Pass Road, at the southern end of the project area, have been set aside by the FS for further study relative to potential values for classification as wilderness.

Public domain lands, administered by the Craig and Grand Junction Districts of BLM, are mainly sage and grassland areas. There are small scattered public domain parcels found in the western half of the project area. The majority of public domain lands are located near Kremmling in the middle and lower reaches of Corridors A and B.

The State manages Colorado's wildlife. The State also manages recreational areas near the Williams Fork Reservoir.

4.10 Socioeconomic Resources

Portions of Grand, Routt and Summit Counties are included in the two corridors. Communities located near the Corridors include Hayden, Oak Creek, Toponas, Phippsburg, Yampa, Kremmling and Heeney. The 1980 population for these communities range from approximately 1,800 for Hayden to 150 for Heeney. The 1980 population in Grand, Routt and Summit Counties is presented in Table 6. All three counties had a total population of 29,727 in 1980. The combined total minority population is slightly more than 4 percent of the total population in 1980.

Major industries in the area include recreation, agriculture, timbering, and mining. Recreational activities include hiking, camping, fishing, boating, hunting, sightseeing, skiing, and snowmobiling. Most campground sites are located near Gore Pass, Green Mountain and Lynx Pass.

Hay, oats, and wheat are the major crops growing in the project area. Agriculture is limited by the short growing season and amount of water available for irrigation. A significant amount of land in the corridors is used for grazing.

Timber harvesting occurs in areas of Routt and Arapaho National Forests. Harvest areas include portions of the upper reach of Corridor A and the middle and lower reaches of Corridors A and B.

Mining operations occur in portions of Routt and Grand Counties and include coal and molybdenum, respectively.

Table 6
 Minority Population in Grand, Routt and Summit Counties of Colorado
 1980

<u>County</u>	<u>Total</u>	<u>Black</u>		<u>Am. Indian, Eskimo, Aleut</u>		<u>Asian, Pacific Islander</u>		<u>Other</u>		<u>Spanish Origin</u>	
		<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
Grand	7,475	5	0.1	33	0.4	11	0.1	116	1.6	255	3.4
Routt	13,404	9	0.1	74	0.5	25	0.2	133	1.0	361	2.7
Summit	<u>8,848</u>	<u>15</u>	<u>0.2</u>	<u>42</u>	<u>0.5</u>	<u>24</u>	<u>0.3</u>	<u>36</u>	<u>0.4</u>	<u>153</u>	<u>1.7</u>
TOTAL	29,727	29	0.1	149	0.5	60	0.2	285	0.9	769	2.6

9-7

Source: U.S. Bureau of the Census, 1980 Census of Population and Housing, Advance Reports, PHC 80-V-7

5.0 ENVIRONMENTAL IMPACTS

This section discusses the impacts anticipated to result from the construction, operation and maintenance of the proposed Hayden to Blue River transmission line project for both the Corridors (A and B). The effects discussed include physical, biological and social impacts associated with the construction and operation of the proposed transmission line within each of the preferred corridors. Environmental impacts show Corridor A is the environmentally preferred corridor, but B is also an environmentally acceptable corridor. During planning, construction and operation of the transmission line, Tri-State will follow the applicable criteria set forth in "Environmental Criteria for Electric Transmission Systems" published jointly by the U.S. Department of Agriculture and the U.S. Department of the Interior.

The project will have adverse as well as beneficial effects. Most of the adverse effects will be short-term and are associated with the construction phase of the project. Most beneficial effects will be long-term and are associated with the operational phase of the transmission line project. There are certain adverse impacts which cannot be avoided entirely, but in many cases they can be mitigated to reduce their intensity and longevity. Section 6.0 describes the mitigation measures that will be implemented to avoid and/or minimize potential impacts.

5.1 Geology and Seismology

Construction of the proposed 345 kV transmission line from Hayden to Blue River will cause little topographic change. Corridor A is known to have eight seismographic faults while Corridor B has only four. Earthquakes, however, are not considered to be a function of design for this project. A large portion of mass movement area (landslides) situated outside the southwest section of Corridor B was eliminated before Corridors A and B were compared to determine their suitability on environmental factors. Limited areas of mass movement (landslides) can be identified throughout the balance of both corridors.

5.2 Soils

Depending on the slope and soil type, construction activities may accelerate soil erosion which would increase the loss of soil and associated nutrients. Impact on soils by the proposed project will be temporary in nature. Erosion hazards in the corridors have been represented as high, moderate or low. Erosion potentials of the existing soil associations in the corridors have been identified and presented in Table 7.2-1 of the EA (Appendix 1, Section 10.0). Both corridors have areas with high soil erosion. Corridor A has 28,700 ha (71,000 a) of high erosion potential, compared with Corridor B which has 40,900 ha (107,000 a). Due to the configuration of the areas of the high erosion potential, a minimum of 52 km (32 mi) and 56 km (35 mi) would have to be crossed in Corridors A and B, respectively. The soil erosion rate will be reduced once the construction and reclamation procedures have been completed. Overall, the impacts on soils within the corridors will be minimized by avoiding, where practicable, areas of high erosion potential.

The SCS and/or appropriate land management agencies will be consulted regarding soil erosion control and seeding requirements for revegetation, where applicable.

5.3 Water Resources

Three main rivers occur in the project area. Both corridors cross the Colorado and Yampa Rivers. Each river would only be crossed once. Corridor B parallels the Blue River in the lower reach. Numerous intermittent and permanent streams will be spanned. Increased sediment yield into nearby waterways is anticipated. However, due to small areas that will be disturbed and the proposed mitigation program, REA has determined that increased turbidity of nearby waterways caused by sediments in surface water runoff will be minor and temporary.

5.4 Vegetative Communities

The structure and composition of vegetative communities along the corridors may be impacted by the construction of the proposed line. Vegetation removal along the ROW and access roads will reduce the total amount of vegetation in the corridor. Revegetation following the construction of the transmission line and regular pruning of the large trees will also alter the natural ecological succession of the vegetative communities in the transmission line corridor. It has been estimated that the maximum ROW width will be 61 m (200 ft) encompassing about 6 ha per km (24 a/mi) for the transmission line. Tower structures will occupy approximately 0.04 ha per km (0.11 a/mi) along the transmission line. The disturbed areas around the base of the towers are expected to be quickly revegetated by low-growing native species. From past experience, it has been found that the long-term impact of a lattice steel transmission line structure on vegetation is relatively minor. Therefore, the impacts on vegetation within the corridors from transmission line construction and maintenance will be minimal. The substation sites are the only areas that will require total vegetative removal. The construction of two new substations will require a total of about 3.2 - 4 ha (8 - 10 a) of land.

5.5 Fish and Wildlife

Most adverse impacts on wildlife will likely occur during construction of the transmission line and are related to wildlife disturbances and the destruction or alteration of habitats. The impacts will vary depending on the season and type of habitat crossed. However, these impacts are generally temporary and original wildlife populations are expected to utilize the ROW after construction activity has ceased.

Elk and mule deer may be impacted if critical areas are affected during construction. Critical areas for these two species include winter range, migration routes, calving and reproduction areas.

Corridor A contains 13,800 ha (34,000 a) and 16,400 ha (40,500 a) of elk and mule deer winter range, respectively. In comparison, Corridor B contains 12,000 ha (30,000 a) of elk and 27,000 ha (66,000 a) of mule deer winter ranges. At a minimum, Corridor A will cross 14 km (9 mi) of elk and 34 km (21 mi) of mule deer winter ranges. Corridor B will cross a minimum

of 8 km (5 mi) and 52 km (32 mi) of elk and mule deer winter range, respectively. In addition, Corridor A contains 3,000 ha (8,000 a) of elk calving grounds while Corridor B contains 900 ha (2,000 a) of elk calving grounds. A minimum of 1.6 km (1 mi) of elk calving grounds will have to be crossed in either Corridor A or B.

Habitat for both sage and sharp-tailed grouse occurs extensively in both corridors. Leks and their associated nesting areas for sage and sharp-tailed grouse occupy 9,000 ha (22,000 a) and 1,000 ha (2,400 a), respectively, in Corridor A. In comparison, Corridor B has 10,700 ha (26,300 a) and 3,400 ha (8,300 a) for sage and sharp-tailed grouse, respectively. A minimum of 13 km (8 mi) and 22 km (14 mi) of leks or their associated nesting area must be crossed in Corridors A and B, respectively.

Modification of sagebrush habitat could have an effect on sage grouse, because they are solely dependent upon sagebrush for food and cover between October and April. Impacts to the sagebrush areas would include the tower sites and new access roads. Permanent access roads and the towers will have long-term impacts. In comparison to the total habitat available, these impacts will be minor. Some disturbance of nesting areas may be unavoidable; however, proper reclamation could restore these areas in a short period of time. Because sage grouse have the lowest reproductive rate of any of Colorado's ground dwelling game birds, any negative effects on production can be expected to result in decreased populations. In comparison, sharp-tailed grouse characteristically adapt to disturbances of this nature and will usually relocate a lek if acceptable habitat is located nearby. Reduced habitat usage by grouse around transmission lines, particularly near the towers, has been reported (Rogers, 1964), and is apparently due to raptor predation. If the line must cross or be nearer than 0.4 km (0.25 mi) to a lek, tower crossarms can be modified so that raptor perching is discouraged.

Habitat used by the greater sandhill crane for dancing, staging, and nesting occurs in the upper reach of both corridors. The dancing areas are already disturbed to some extent by the Hayden Generating Station and associated transmission facilities. The corridor boundaries were redefined to avoid the sandhill crane nesting areas. Only minor impacts to the greater sandhill crane are expected to result from the project.

Areas utilized as nesting sites by golden eagles and prairie falcons occur throughout both corridors, especially Corridor B. Two active prairie falcon nests are located in Corridor B. Golden eagle nest sites include two in Corridor A and eight in Corridor B. If practicable, raptor nesting areas will be avoided by at least 0.4 km (0.25 mi). Bald eagles and peregrine falcons, which could occur in the area, are discussed in Section 5.6.

Transmission towers may serve as hunting perches for raptors. Therefore, the towers occasionally have a beneficial effect on populations of these predatory birds. However, this positive aspect can be negated when transmission lines closely parallel roads. Ellis (1969) reported that illegal shooting resulted in high raptor mortality along a transmission line that paralleled a road in Cedar Valley, Utah.

Impacts of transmission lines on birds include temporary disturbance during construction, habitat alteration and mortality associated with collision with transmission line conductors, ground wires and guy wires. The magnitude of these potential impacts will depend on the habitat crossed and the size and type of bird population. Important mating, feeding or nesting grounds, and bird sanctuaries represent the most sensitive areas. Most birds are likely to return to the project area within a short time after the construction activities cease.

A great blue heron rookery occurs in Corridor B. With advance planning and proper alignment, this rookery would be avoided. However, if a rookery must be disturbed, appropriate mitigation will be undertaken after consultation with the FWS.

The incidence of waterfowl colliding with conductors has become cause for concern. The most consistent victims of striking wires are the large migratory birds, such as geese, swans, ducks, pelicans and cranes, whose flocking behavior brings many individuals together in dense masses. Most collisions occur when the birds are preoccupied with landing, interacting with members of their own species, or avoiding predators or hunters. During fog, dense cloud cover, nighttime, or a drizzle, birds have been known to collide with towers and wires. Most waterfowl collision mortalities can be prevented by avoiding breeding, feeding and resting areas. The final alignment of the transmission line will avoid these areas to the extent practicable.

5.6 Threatened and Endangered Species

Four plant species that have been proposed for inclusion on the Federal threatened and endangered list have been reported within the corridors. These species are ousterhout milkvetch (Astragalus ousterhoutii), Harrington penstemon (Penstemon harringtonii), Neoparrya megarrhiza, and Conimitella williamsii. Tower sites will be checked for these plant species. If any are found, the location of disturbances will be altered or appropriate mitigation applied in consultation with the appropriate Federal agency to avoid impacts on that plant species.

Three federally listed threatened species of fish occur in the Colorado River. The current uppermost distributional range of the Colorado squawfish, humpback chub, and the bonytail chub is more than 160 km (100 mi) downstream from the project area. These species, therefore, will not be affected by the proposed project. The Colorado squawfish is found in the Yampa River downstream from Craig, Colorado. The Colorado River cutthroat trout, listed as endangered by the State of Colorado, occurs in the tributaries to the Colorado River in the overall project area, but it does not occur in streams crossed by the two corridors and will not be impacted by the project.

Three wildlife species currently listed on the Federal list of threatened and endangered species have the potential to occur within the corridors. These three species are the bald eagle, peregrine falcon and black-footed ferret.

Winter concentration areas for bald eagles are widespread in both corridors, with Corridor A having 4,600 ha (11,300 a) and Corridor B 12,700 ha (31,400 a). Bald eagles are not known to nest within the

corridors. Although bald eagle roost sites occur in the general area of the corridors, the corridor boundaries were redefined to exclude all known roost sites.

Peregrine falcons are not known to nest in or adjacent to the corridors. Their only association with the area would involve possible sightings during their migration period.

As a result of contact with the FWS, a biological assessment was prepared by Tri-State to determine if the proposed project would affect the bald eagle or black-footed ferret. This assessment, which was evaluated by REA, indicated that no prairie dog colonies were present and that no black-footed ferrets had been reported within the study area. It also reported that bald eagles do not nest in the area. The assessment concluded that the proposed project would not have an adverse impact on any federally listed threatened or endangered species.

In accordance with Section 7 of the Endangered Species Act, as amended, REA has concluded that no federally proposed or listed threatened or endangered species will be impacted by the proposed project provided the mitigation measures are implemented as outlined in the FWS letter. The FWS concurred by letter on October 29, 1980 (Appendix 3, Section 10.0).

5.7 Agricultural Lands

The SCS has identified no prime farmland in the corridors, and the corridors cross only small areas which are flood-irrigated.

Corridors A and B contain 6,700 ha (16,500 a) and 7,200 ha (17,700 a) of cropland, respectively. A minimum of 6 km (3.5 mi) of cropland would have to be crossed in either Corridor A or B. Impact on agricultural land will vary depending on the type of land affected. Following construction, the land in the ROW may be used for similar agricultural practices as they were used prior to construction of the transmission line. Because farming activities can continue under the line in the ROW, the only areas that will be lost are those occupied by the tower structures. This loss would amount to about 0.16 ha (0.4 a) of agricultural land over the length of the transmission line. REA has determined that no practicable alternatives exist to crossing some agricultural land. The proposed project will have only a minimal impact on land used for agriculture.

5.8 Floodplains

For Corridor A, floodplains in the project area are associated with the Colorado and Yampa Rivers and numerous creeks. Because most of the floodplains are narrow, the transmission line will span all floodplains except the Colorado and Yampa River floodplains. To cross the Colorado River, a maximum of 5 km (3 mi) of designated 100-year floodplain will be crossed. For the Yampa River, a maximum of 2 km (1.6 mi) of designated 100-year floodplain will be crossed.

For alternate Corridor B, the transmission line may cross a maximum of 8 km (5 mi) of the Colorado River 100-year floodplain and may parallel as much as 24 km (15 mi) of the Blue River floodplain. The COE will be consulted to minimize any adverse impacts that may occur with these crossings. REA finds that there is no practical alternative to crossing

FIG 5-19
OF EA
SHOWS
CROSSING
OF YAMPA

the Colorado River and Yampa River for the preferred Corridor A, and Yampa, Colorado and Blue Rivers for the alternate Corridor B. Structures located in the floodplain will be designed to minimize the probability of damage caused by floods and thereby loss of vital services. The proposed facility is not considered a 'critical action' facility by REA. No special COE permits will be required.

5.9 Wetlands

Corridor A contains 2,300 ha (5,700 a) of wetlands while Corridor B contains 4,600 ha (11,300 a). Generally, the wetlands are small and will be avoided; however, those that cannot be avoided will be spanned. Therefore, the project will not significantly impact wetlands.

Upon evaluation of available information, REA concludes that there is no practicable alternative to the proposed project that would avoid the crossing of wetland areas.

5.10 Cultural Resources

There are no known archaeological or historical sites listed in the National Register of Historic Places for the project area. However, archaeological sites may be present along the transmission line corridor. Therefore, the project participants will conduct an archaeological survey to identify any sites of concern within areas which will be disturbed. The applicants would use the BLM, FS and other land manager/owners inventory requirements, as appropriate, for the cultural resource inventories. The results of the survey would be presented to the SHPO for the State of Colorado with a request for comments on the inventory methods and actions for determining the eligibility of qualifying cultural properties. Survey results would also be submitted to REA for its evaluation. If required, routing for the line would be altered to avoid areas of archaeological significance in consultation with the appropriate Federal and State agencies.

5.11 Classified Areas

Wild and scenic rivers, wilderness areas, national trails, national parks, national monuments or State designated areas would not be crossed by the proposed transmission line project. Limited amounts of State-owned lands may be crossed by the transmission line. These lands include coal leasing areas, rangeland and wildlife areas. No State lands would be crossed without the State's approval. A segment of the Colorado River inventoried as having potential in the National Wild and Scenic Rivers System bisects Corridor B. Three geologic features, the Muddy Slide, Wolford Mountain and Gore Range, inventoried as having potential for designation as National Landmarks lie within the project area. Two of these features (Muddy Slide and Wolford Mountain) intrude into Corridor A and one (Gore Range) lies adjacent to Corridor B. National Forest lands south of the Ute Pass Road at the southern end of the project area (both Corridors A and B) have been set aside by the FS for further study relative to their value for designation as wilderness.

5.12 National Forests

Portions of the Routt National Forest and Arapaho National Forest lie within the project area. Approximately, 42 percent of Corridor A and

27 percent of Corridor B encompass national forest land. The maximum area of National Forest lands that may be impacted due to the ROW is estimated at about 300 ha (750 a) in Corridor A and 200 ha (500 a) in Corridor B. The primary impact to forest land would be the loss of the productivity on land that is occupied by the tower structures. Other notable impacts of the project include construction of new roads, increased usage of the existing roads, visual impacts from the facilities and removal of vegetation.

5.13 Public Domain Lands

Approximately 9 percent and 7 percent of Corridors A and B, respectively, will pass through public domain lands. BLM lands are used for grazing, recreation, wildlife and a number of other activities. REA considers that the impact on these lands would not be significant. Since mitigation will lead to the development of ecological conditions capable of supporting any or all of the aforementioned land use activities on lands BLM manage.

5.14 Recreational Resources

The proposed project would have negligible effect on recreational resources. Major recreational resources in the area are the Green Mountain Reservoir, a number of FS's campgrounds and several recreation areas in the Gore Pass and Lynx Pass areas. Alignment of the transmission line within Corridor B will be visible from the Green Mountain Reservoir. Using either corridor, the alignment must cross the highway somewhere in the Gore Pass area and the crossing will be visible. Alignment of the transmission line will be carefully selected to avoid the view from the highway and campgrounds in the Gore Pass area. Therefore, none of these recreational resources would be significantly affected by this project.

5.15 Air Quality

Impacts on air quality would occur during construction and include dust production primarily by vehicles and vehicular emissions. No significant increase over the ambient levels of these pollutants is expected due to the scope and nature of the project. The impacts on air quality would be similar, irrespective of the corridor being used for construction.

5.16 Socioeconomic Resources

The short-term economic benefits of the proposed action would be associated with payments for land and easement acquisition, payments for materials purchased locally, and use of the limited local labor force. Payments made for easements would benefit the affected landowners and land management agencies. There would be additional income from the sale of goods and services. Business activities most likely to derive benefits include motels, restaurants and retail stores. *

The cost of constructing the transmission line project is estimated at \$149,500 per km (\$240,600/mi) assuming the use of self-supporting steel lattice structures. This does not include costs for surveying, planning, or engineering.

The affected counties would receive annual tax revenues which will be based on the number of miles of line in each county and the county mill levy. Only Colorado-Ute and Tri-State would pay taxes; Western and Platte River will be exempted because of their tax-exempt status. Consequently, the proposed project would have a beneficial impact on the tax revenue receipts of the counties involved.

The electrical benefits derived from this project would increase reliability of electrical service to consumers for many years. Increased reliability and transfer capability in the regional electrical system would help support existing and future agricultural, industrial, recreational and residential needs in northwestern Colorado and elsewhere. This, in turn, may contribute to employment opportunities in the area, thus stimulating the economy. By keeping the cost of electrical energy down, the project should provide a long-term, favorable effect on the regional economy.

Corridor A contains approximately 3,800 ha (9,500 a) of coal leasing areas, and Corridor B contains approximately 900 ha (2,200 a). Potential land use conflicts between surface mining operations and a transmission line have been discussed with mining companies. It is generally agreed that proposed or active surface mines do not represent a serious siting constraint since the line can be moved at a later time if economically justified. For all practical purposes, it is possible that a transmission line can be routed through proposed or active surface mine areas without being subject to relocation in the future provided the mine operator can adequately meet the requirements of the Mined Land Reclamation Board. Therefore, the proposed project is expected to have minimal impacts on surface mining areas.

Urban areas and residential dwellings will present constraints to transmission line routing. Corridor A is located within 3.2 km (2 mi) of the communities of Hayden, Oak Creek, Phippsburg and Kremmling. Corridor B is within 3.2 km (2 mi) of the communities of Hayden, Phippsburg, Yampa, Toponas, Kremmling and Heeney. The economic activities, especially the employment, personal and per capita incomes, wholesale and retail sales, will not be significantly impacted in the project area. Therefore, the impact on population in the project area, due to construction of the project, is expected to be minimal and of short duration. The land use patterns of these urban centers, both existing and planned, will not be appreciably impacted by this project since the project is not expected to impact any known developments in the area.

The FAA will be contacted once the centerline is established to ensure that the project does not interfere with the aviation facilities. Therefore, the proposed project is not expected to adversely affect the aviation facilities in the project area.

REA requires that the borrowers and their contractors (for contracts in excess of \$10,000) be in compliance with REA Bulletin 20-15:320-15, "Equal Employment Opportunity in Construction Financed with REA Loans" and Bulletin 20-19:320-19, "Nondiscrimination Among Beneficiaries of REA Programs." Corridor selection was made equitably without regard to racial and ethnic considerations. Therefore, REA has determined that the project would not have any impact on civil rights and only minor impacts on housing, employment and local public services.

5.17 Construction Noise

Noise levels higher than normal background will be generated during the construction phase of the project. The maximum construction noise levels will range from 85 to 95 decibels (dB) at 12.5 m (50 ft) from the source. The noise level will exceed far above the 95 dB noise level in the project area if the helicopters are used for construction. Due to the generally isolated and sparsely settled location of the project and the limited duration of activities in any one location, it is anticipated that noise annoyance will be kept within acceptable levels. In any event, construction noises will be kept at a level to ensure concurrence with applicable Occupational Safety and Health Act (OSHA) standards.

5.18 Transmission Noise and Electrical Effects

The operation of the transmission line at a 345 kV level may produce an audible hum. The leaking of the electrons from the conductor (corona) to the surrounding environment is responsible for audible noise, electromagnetic interference (static), ozone and nitrous oxide production, occasional visible light and conductor vibration. The audible noise from the operation of the line will be the greatest during wet weather conditions. Experiments have shown that audible noise during heavy rain at a distance of 152 m (500 ft) for a 345 kV line would be below 50 dB. Noise from the operation of the circuit breakers at the three substations will have little effect because they will be operated infrequently. Transformers at the two new proposed substations will also emit a continuous hum. If excessive noise levels are encountered, corrective measures will be taken. Based upon the above information, REA concludes that the project operation at a 345 kV level should cause little or no audible noise annoyance.

Radio (AM and FM) and television (UHF and VHF) interference caused by electromagnetic radiation from the proposed line is not likely to occur at distances greater than 60 m (200 ft) from the conductors. During dry weather conditions, TV and radio interference is not expected to be a concern along the corridors.

Minute quantities of ozone and nitrogen oxides (oxidants) are produced by the transmission line corona. The operation of a 345 kV transmission line under normal conditions may produce about 0.007 parts per million (ppm) of oxidants which is far below the National Ambient Air Quality Standard of 0.12 ppm for oxidants. Therefore, the operation of the project will not be hazardous in terms of the production of oxidants.

Electrostatic field effects occur on high-voltage transmission lines. The electric field is the rate of change of voltage rather than actual voltage. The proposed 345 kV line would be expected to have a maximum field gradient of about 1.7 kV/m (0.4 kV/foot). Electromagnetic induction can be hazardous provided a significant amount of current is induced. These hazards are eliminated by the use of proper grounding of all fences and metal objects near the transmission line. Research on the effects of electric currents on humans showed that induced currents should not exceed the 5 mA (milliamperes) set by the National Electric Safety Code as the limiting safe value for humans. Design specification will ensure the field levels to be well below this level.

Considerable research and study has been done to determine the health effects of high voltage transmission lines on living organisms. Based on evidence to date, no biological hazards are anticipated from the operation of the 345 kV transmission line.

5.19 Visual Resources

Construction and operation of the Hayden to Blue River transmission line will modify the character of existing landscape. There are no quantitative criteria available for determining the extent of landscape modification. Only qualitative measures requiring judgment and experience can be utilized.

The process used to analyze the visual resources for the project study was derived from the U.S. Forest Service Visual Management System (VMS) and the BLM Visual Resource Management (VRM) System. After several planning meetings, with representatives from these two agencies, Tri-State and its consultants, an integrated system was agreed upon for use in this study. Aspects of both systems were incorporated to provide a basis for establishing visual management objectives for the multiple jurisdictions of Federal, State and private lands within the project area.

The major components of the visual resources inventory include:

1. Scenic Quality
2. Distance Zones
3. Use Volume
4. User Attitudes
5. Visual Absorption Capability (VAC)
6. Visual Sensitivity
7. Visual Quality Objectives (VQO)

Each of these components is defined in Section 5.3.4, page 127, of the applicant's EA (Appendix I, Section 10.0). The VQO in the project area are shown on figure 5-15 of the EA, and the VAC levels are shown on figure 5-16 of the EA. The potential for skylining (silhouetting a transmission line against the sky, thereby making the line extremely visible) was also assessed. Skylines identified in the project area are shown in Figure 7-12 of the EA (Appendix I, Section 10.0).

The evaluation which gives a relative indication of visual impacts was based on the composite of VAC and VQO analyses. Key VAC variables include vegetative screening, landscape complexity, potential soil color contrast, and observer position. VAC is an indication of the inherent capability of the landscape to absorb change. VQO indicates acceptable or compatible levels of visual change. Visual quality levels were determined from a combination of scenic quality, visual sensitivity, and distance zones.

From the composite VAC/VQO analysis, four levels of visual constraint were identified in the corridors: maximum, major, moderate and minimal. Levels of constraint were defined on the basis of visual conflicts between the introduction of a 345 kV transmission line into the corridors and the potential to mitigate those conflicts.

Potential impacts to the visual resources were identified on the basis of specific impact types within each corridor. Two scenarios were

developed in each corridor. One scenario was developed on the basis of a probable relationship to visual resources. The other scenario was developed on the basis of the worst case. This allowed assessment of a range of potential impacts from a probable case to the worst case in each corridor. Visual constraint scenarios in each corridor are presented in table 7.

TABLE 7

Visual Constraint Levels

Constraint Levels	Probable Case				Worst Case			
	A		B		A		B	
	km	mi	km	mi	km	mi	km	mi
Maximum	6.8	4.2	23.8	14.8	24.5	15.2	77.6	48.2
Major	38.6	24.0	74.3	46.2	54.7	34.0	45.7	28.4
Moderate	45.4	28.2	14.8	9.2	28.6	17.8	9.0	5.6
Minimal	29.9	18.6	40.6	25.2	8.7	5.4	6.1	3.8

A probable scenario in Corridor A passes through 6.8 km (4.2 mi) of Maximum Constraint areas. These areas include the mountainous areas in the upper and lower reaches along Colorado Routes 131 and 134, U.S. Highway 40, and the Ute Pass area. A probable-case scenario in Corridor A also includes 38.6 km (24 mi) of major constraint area, which includes areas of high use and moderate scenic quality or areas of moderate and low use and high scenic quality. Major constraint areas include the grasslands south of Hayden (upper reach), areas of rolling topography along Colorado Route 134 (middle reach), and areas adjacent to U.S. Highway 40 east of Kremmling (lower reach).

The worst-case scenario for Corridor A includes the same maximum and major constraint areas, but instead of minimizing the contact with these areas, it maximizes the contact. This results in 24.5 km (15.2 mi) of maximum constraint area, and 54.7 km (34 mi) of major constraint area.

A probable-case scenario in Corridor B passes through 23.8 km (14.8 mi) of maximum constraint area. Primary areas of maximum constraint would be crossed northwest of Yampa (upper reach) and near Green Mountain Reservoir (lower reach). The probable scenario in Corridor B also includes 74.3 km (46.2 mi) of major constraint area. These include the grasslands south of Hayden (upper reach), an area along Colorado Route 134 (upper reach), a large area north of Route 134 along U.S. Highway 40 (middle reach), and another large area south of Kremmling along Colorado Route 9 (lower reach).

The worst-case scenario for Corridor B includes the same maximum constraint areas as does a probable-case and, additionally, includes areas along Colorado 131 (upper reach), Colorado 134 (upper reach), U.S. Highway 40 (middle reach), and Colorado Route 9 (lower reach). The worst-case scenario for Corridor B includes the same major constraint areas as does a probable-case, but its mileage in major constraint areas is less while mileage in maximum constraint areas is greater. This is the result of the assumption that of both maximum and major constraint areas were available, the maximum constraint areas would provide worst-case

conditions. Therefore, the worst-case scenario for Corridor B includes 77.6 km (48.2 mi) of maximum constraint areas and 45.7 km (28.4 mi) of major constraint areas. The potential for skylining exists in all reaches of both Corridor A and B. Significant ridge-to-ridge, perpendicular-type skyline situations are evident in both the upper and lower reaches of Corridor B.

As indicated, locating a transmission line in either corridor will result in visual impacts. Fewer areas of maximum and major constraint exist in Corridor A than in Corridor B. Appropriate mitigation measures will be applied to minimize the visual impacts.

5.20 Effects of Locating a 345 kV Transmission Line in Corridor A Versus Corridor B

This section presents a comparison of the effects of locating the Hayden to Blue River transmission in the two preferred corridors (Corridor A and Corridor B) with emphasis on residual impacts. Residual impacts are unmitigated and unavoidable adverse impacts that would result if the proposed action is implemented and the monitoring procedures and mitigating measures outlined in Section 6.0 of this EIS are applied.

Table 8 presents a summary of the comparison of the residual impacts for the environmental issues as affected by project implementation within these two corridors. The effects of the project on climate, air quality, water quality and topography are not presented because they will not be significantly affected.

Residual environmental impacts were the basis for selecting the preferred corridor. Overall, Corridor A has the potential for comparatively fewer impacts to geotechnical features, ecological resources, land use and visual resources of the affected area. Therefore, after evaluation of the issues, Corridor A was selected as the preferred corridor for the Hayden to Blue River transmission line.

5.21 Favorable Effects

It is essential that an area has an adequate and reliable supply of electric power at reasonable cost in order to have continued economic growth. The proposed Hayden to Blue River transmission line project will provide increased electric capacity and service reliability to consumers in the project area. The project will also increase the abilities of Tri-State, Colorado-Ute, Western, Platte River and PSCo to exchange power with other area power suppliers.

Other notable beneficial effects which will result from the implementation of this project are: 1) an increased supply of electric power by this project will help to achieve the goals and objectives set in the National Energy Plan, 2) temporary stimulation of local economy through employment of between 100-120 people during construction, 3) long-term beneficial effects of employment for line maintenance and operation purposes, 4) benefits to local businesses through increased expenditures for goods and services, 5) benefits through tax revenues to affected counties and 6) benefits to land owners and land management agencies through payments or fees for ROW easements.

TABLE 8

Comparative Evaluation of Residual Impacts of
Corridors A and B

Issues	Corridor A	Corridor B
Length & Estimated Cost	Cost is estimated at \$28.8 million. Length of the line following Corridor A would be slightly less compared to that of Corridor B	Cost will be slightly higher than A because of longer length
<u>Environmental Issues</u>		
Visual	Visibility would be less and it would have fewer miles of maximum and major constraint levels and fewer skyline situations	Visibility would be more and it would have more miles of maximum and major constraint levels and more skyline situations
Cultural	Concentration of cultural resource sites is greater and it would have less flexibility in routing	Concentration is less and thus there would be more flexibility in line routing
Land Use	Less accessible and it may require more miles of new access roads	Due to higher utility uses that exist, it would require less new access roads
Mass movement areas (landslides)	Impact would be greater on productive forest land No appreciable problem exists	Impact on productive forest land would be minor No appreciable problem exists
Soil erosion	Impact on the high and moderate soil erosion areas will be less	Impact will be more on the high and moderate soil erosion areas

TABLE 8 (Continued)

Issues	Corridor A	Corridor B
Wildlife Sensitive areas	Impact on greater sandhill crane would be higher because more dancing and staging areas are affected	No appreciable impact because of negligible dancing and staging areas
	No impact on prairie falcon	Prairie falcon would be impacted because of the presence of nesting and staging areas
	No impact on golden eagles	Impact would occur because of extensive wintering areas along with nesting sites
	No impact on bald eagle	Impact would occur because of extensive wintering areas along with nesting sites
	Minor impact on sage grouse and sharp-tailed grouse	Impact on sage grouse would be considerably higher because of extensive nesting areas
	Impacts on critical areas for elk and mule deer would be minor	Impacts would be comparatively greater
	Overall impact on wildlife would be minor	Overall impact on wildlife would be greater

5.22 Cumulative Effects

Existing and planned projects in the area are described in Section 5.0, pages 122-124, of the EA (Appendix 1, Section 10.0). Projects that are under different stages of planning and development include housing subdivisions of Deerwood Park, Lake Catamount, Lower Beaver Ridge, White Cotton and Whitewood 1 & 2 in Routt County, Gore Lake 1 & 2 in Grand County and Spring Creek in Summit County. There are some Federal and State coal lease lands that occur in the project area.

A number of water and power projects are also planned in the project area. These include the proposed Sheephorn Project sponsored by the City of Golden and the Oak Creek Water and Power Project. A 5-year timber sale action plan for the Routt and Arapaho National Forests outlines timber harvest and management activities in the area. A scenic and recreational highway, Colorado State Highway 9 between Silverthorne and Green Mountain Reservoir, has been proposed by Summit County. The proposed Western Slope Gas West-East Intertie Pipeline crosses parts of Corridor A and Corridor B. A number of park and recreational developments have been planned including the Roadless Area Review and Evaluation (RARE) II in the Service Creek and Williams Fork areas. The Hayden to Blue River transmission line project is not in conflict with these projects in the area.

Projects discussed above will have both beneficial and adverse economic impacts to the area. The area will have a gain in employment and also receive increased tax revenues for the counties where these projects are located. The increase in population and employment may produce unfavorable impacts on the various community services including housing, education, health, etc.

REA is not aware of any other power generation or transmission line project which are under construction at present in the project area.

5.23 Unavoidable Adverse Effects

During the project planning and corridor selection process for the proposed transmission line, many environmental issues were identified in order to minimize or avoid, where practicable, any adverse effects from the construction and operation of the proposed Hayden to Blue River 345 kV line. Even with these considerations taken into account, along with mitigative measures, certain environmental impacts will result.

Where transmission towers are placed on cropland or rangeland, small areas would be removed permanently from cultivation and grazing. Approximately 0.16 ha (0.4 a) of cropland for the entire line and a very small amount of rangeland will be lost to production. The use of large farm machinery and aerial dusting may be affected in both Corridors A and B.

Wildlife will be disturbed during the construction stage. Areas of concern which could be impacted are the critical winter ranges for elk and mule deer, traditional elk calving areas and ranges, and the mating and nesting areas of greater sandhill cranes, great blue herons, sage grouse, golden eagles and prairie falcons.

Vegetation will be adversely impacted during construction. Management of approximately 300 ha (750 a) and 200 ha (500 a) of timberland areas will be adversely affected in Corridor A and Corridor B, respectively.

While attempts will be made during final routing of the line to lessen adverse aesthetic impacts, the transmission line may still be considered a negative factor in certain areas such as those used extensively for recreation and in residential areas. Lands that are unseen or beyond 15 km (9 mi) from Key Observation Points were classified as "seldom-seen" areas. Nonetheless, construction of the proposed facility in such areas would create a visual intrusion to those few people who seek such remote areas in their recreational pursuits.

Soil erosion will occur during construction, but will be minimized by proper construction and mitigation practices.

In Corridor A, as much as 5 km (3 mi) of floodprone area in the Colorado River and 2 km (1.6 mi) in the Yampa River would be crossed. In Corridor B, the transmission line may cross a maximum of 8 km (5 mi) of the Colorado River 100-year floodplain and may parallel up to 24 km (15 mi) of the Blue River floodplain. Each tower base would occupy 0.01 ha (0.02 a) and should not have a significant impact on the floodplain. Structures located in the floodplain will be designed to minimize the probability of damage caused by floods and thereby loss of vital services. There is no practicable alternative for the location of these towers.

All other wetlands in the corridor will either be avoided or spanned, if practicable.

There are no known unavoidable cultural resource conflicts within the project area.

5.24 Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

Short-term environmental effects from construction including noise, erosion and air pollution have previously been discussed and should be minimal. Current land uses consisting of grazing, agriculture, mining, recreation and silviculture should not be altered significantly by the construction of the line.

A very small amount of vegetation will be temporarily removed by the construction and operation of this project. An estimated 6.5 ha (16 a) of vegetative area along the ROW and at the two new substation sites would be considered as long-term loss. The growing of tall trees will not be allowed in the ROW. This will preclude the production of more commercial sawlog timber on 300 ha (750 a) and 200 ha (500 a) of land in Corridor A and B, respectively. Lands presently used for pasture should not be affected by the proposed action. The necessary clearing of the substation sites will have insignificant effect upon the cultivated land.

The impacts on wildlife would not affect the long-term productivity of the wildlife resources due to this project.

The long-term effects from the transmission line will be the occupancy of land for tower sites, the construction of two new substations,

restriction of some activities underneath the line, negative aesthetic impacts, an increase of the reliability of the electrical services which may contribute to economic growth of the area and increased revenues to the counties. There will be a temporary beneficial effect to the local economy from the goods and services required during construction. Long-term effects of the project to the area economy cannot be quantified at this time. The supply of electrical power by the proposed line would enhance both the long-term and short-term productivity of the area. The land for the ROW will be maintained for the useful life of the project of between 40 and 50 years. If the facility is dismantled at the end of its useful life and the structures are removed, the area could revert to its present condition.

5.25 Irreversible and Irretrievable Commitments of Resources

The irreversible and irretrievable commitments of resources for this proposed transmission line will be the labor, economic resources, building materials and fuels expended for construction. There will also be a loss of production from land required for tower placement. The timber production, which will be lost as a result of maintenance of the ROW, is considered an irretrievable resource. The future land use in the project area may be restricted to some extent due to the presence of the transmission line. The loss of small mammals, rodents, amphibians and reptiles during construction is irretrievable. Should any previously undetected cultural resource be disturbed, its integrity would be irreversibly and irretrievably lost. Also, any wildlife losses due to this line would be irreversible and irretrievable.



6.0 MONITORING AND MITIGATION

An effective monitoring program is necessary to ensure implementation of the mitigation measures to ameliorate the potential impacts due to construction, operation and maintenance of the REA-financed proposed transmission facilities. REA, therefore, has developed this monitoring program and has made it a part of this report. Furthermore, Tri-State will consult with PSCo regarding the potential environmental impacts due to the construction, operation and maintenance of the non-REA financed Blue River Substation and will use its best efforts to obtain from PSCo acceptable commitments to mitigate these impacts.

6.1 Monitoring

Representatives of Tri-State will periodically inspect the construction of the proposed project to insure compliance with this document, the construction contract and any acquired permits. Stipulations and requirements in permits and grants issued to the project participants by the BLM, FS, the State of Colorado, and Grand, Routt and Summit Counties will include provisions for mitigation and monitoring. These provisions will be incorporated into a plan of operations for the project to be approved by each of these above entities prior to its construction. As a minimum, the plan of operations will address the following:

1. Siting of the transmission line
2. Access
3. Soil erosion control, reclamation, and revegetation
4. Construction and scheduled maintenance timing
5. Cultural resources
6. Clearing
7. Stream and surface water crossings
8. Protection of existing improvements
9. Water quality
10. Air quality
11. Traffic control
12. Hazardous materials and petroleum products
13. Materials specifications
14. Special use areas
15. Wildlife
16. Clean-up
17. Unscheduled maintenance
18. ROW management

In particular the following monitoring procedures will be implemented:

1. The construction contract will incorporate the commitments made in this document.
2. REA will review the construction contract and specifications for compliance.
3. Representatives of Tri-State will be at the construction site to insure compliance.
4. During operation, the transmission line is proposed to be routinely inspected at least twice a year.

6.2 Mitigation

6.2.1 Geotechnical Features

Erosion and compaction of soils will be minimized to the maximum extent practicable. Existing roads and trails will be utilized, wherever practicable, to minimize the construction of new access roads. Where new access roads are deemed necessary, they will be constructed to generally follow the contour of the land and according to accepted engineering practices to the extent feasible. Road surfaces will be properly drained, stabilized, and maintained. Roads not necessary for future power line maintenance will be reclaimed.

Areas, from which vegetation is removed, will be reseeded and mulched, where required, for revegetation as soon as practicable. If, during construction, it is necessary to excavate to lower soil horizons, the topsoil will be saved, replaced and reseeded with vegetation compatible with surrounding ground cover. Seeded areas will be fertilized, where necessary, to accelerate restoration of vegetative cover. Tri-State will also follow all appropriate recommendations made by the SCS and appropriate land management agencies pertaining to erosion control and revegetation procedures.

Ruts, scars, cuts and fills will be restored to original contours. Temporary construction roads will also be restored to original contours and natural ground cover, and roads which continue to be used for maintenance access will be maintained to ensure proper drainage and erosion control. Tower placement will avoid known fault zones and avalanche or rockfall prone areas.

The surface water quality will be maintained following the procedures outlined in Guidelines for Controlling Sediment from Secondary Logging Roads (Paul E. Packer and George F. Christensen). Implementation of these guidelines will be based on compliance with Federal and State water quality standards.

6.2.2 Ecological Resources

Potential impacts to ecological resources will be mitigated to the maximum extent practicable through transmission line alignment. Field investigations and project siting will be utilized to avoid, where practicable, sensitive habitats such as critical breeding and nesting areas and critical winter range.

In addition, the following specific mitigation procedures will be implemented:

1. Should a prairie dog colony be discovered during construction of the proposed project, FWS will be contacted and the colony will be surveyed for black-footed ferrets. Tri-State will follow all appropriate requests and recommendations made by FWS.

2. Greater sandhill crane and great blue heron nesting areas will be avoided by at least 0.4 km (0.25 mi).

3. Sage grouse and sharp-tailed grouse leks will be avoided by at least 0.4 km (0.25 mi). During the strutting period, construction activities will be timed to avoid disturbances to mating birds during the early morning hours (one hour after sunrise).

4. All known bald eagle roost areas will be avoided by the project.

5. Golden eagle nesting areas will be avoided to the extent practicable. However, if an active golden eagle nest must be disturbed, appropriate mitigation will be instigated after consultation with the FWS.

6. Areas of heavy waterfowl and migrant usage will be avoided to the extent practicable.

7. Communities with high plant species diversity and structural complexity, such as riparian areas, will be avoided, whenever practicable.

8. Construction activities on critical winter range for elk and mule deer will be scheduled around periods of stress.

9. Construction activities will be scheduled to avoid conflicts with elk and mule deer migration routes.

10. Construction activities will be avoided on elk calving grounds during the calving season.

11. Tower sites will be checked for plant species which are currently under study for proposal as endangered species. If a species is identified at a tower site, the site location will be altered or appropriate mitigation applied in consultation with appropriate Federal agencies to avoid impacts to that plant species.

6.2.3 Land Use

All reasonable efforts will be made to avoid or minimize project impacts on existing land use. The following mitigation measures will be implemented, where practicable, to minimize the potential adverse effects of transmission line construction and operation on land use:

1. All towers, roads, etc., will be located in concert with the landowner/land management agencies.

2. Towers will be placed so that conductors cross highways and rivers at near right angles, to the extent practicable.

3. The number of road and river crossings will be minimized.

4. Trees in the ROW will be topped rather than removed, whenever practicable.

5. A screen of natural vegetation will be retained along the ROW, whenever possible, especially where the ROW crosses major highways, rivers and critical areas.

6. The number of new access roads constructed will be minimized.

7. Irrigated or cultivated agricultural lands will be avoided, to the extent practicable, when favorable alternative locations exist within the corridor.

8. On farmlands, agricultural production will be permitted beneath the transmission lines allowing for multiple use of the ROW.

9. Subdivisions and single-family residential units will be avoided, to the extent practicable.

10. Developed recreational areas will be avoided.

11. Towers will not be located in floodplains unless approved by appropriate authorities. If the transmission line structures are placed in a floodplain, the structures will be designed and constructed to withstand flooding and in accordance with the local floodplain regulations.

12. Wetlands will be avoided or spanned if practicable. Any construction activities taking place near wetland or riparian areas will include appropriate erosion control measures in order to minimize or avoid the adverse erosion impacts.

13. Mine tailings areas will be avoided or spanned.

14. Land use conflicts with existing and planned (permit granted) transmission lines, gas pipelines and other utilities will be resolved.

15. Maximum care will be taken to prevent fires on or near the lands to be occupied by construction activities.

16. No construction work will be allowed to affect any utility corridor, irrigation ditch or other structure until the applicant has obtained permission from the owner of the property involved.

17. Travel will be allowed only on designated construction access ways.

18. In case of crossing ephemeral streams by the line and access roads, clearing for roads and ROW shall be held to a minimum to reduce the potential for sediment entering these drainages. There shall be no pushing of soil into streams.

19. Blasting will not be allowed in or near streams without adequately protecting the stream from debris.

20. Upon completion of the project, roads not required for facility maintenance or other access will be closed and restored. All remaining access roads will be used and maintained as specified in the plan of operations.

21. Temporary fence protection shall be provided where existing fencing is removed or altered. Gates and fences must remain closed, except to allow the passage of equipment during clearing. Any fences removed during construction will be monitored to prevent escape of livestock and will be replaced as soon as possible.

22. Tri-State will advise construction crews and other personnel associated with the construction, operation and maintenance of the project to adhere to traffic regulations in the project area.

23. Litter and construction waste will be removed and disposed of properly once the construction is completed. Scars produced by temporary service vehicles on land during the construction period will be restored to the natural state, to the extent practicable.

24. Monitoring of contractors throughout the construction and cleanup phases will be followed to minimize construction impacts to soils, crops or livestock.

25. Appropriate ROW management techniques will be used to reduce problems such as weed growth around the base of the transmission towers in cropland.

26. Helicopters will be used in environmentally sensitive areas if stipulated in the plan of operations.

6.2.4 Visual Resources

Mitigation measures to reduce the visual impacts of the proposed project will include the use of transmission tower steel coloration which minimizes reflectivity and color contrast. Where feasible, trees will be topped when complete tree removal is not necessary, and vegetative screens will remain intact between tower locations and visually sensitive areas. Alternative construction and maintenance methods will also be analyzed where the construction of a new access road will result in a visual obstruction to a visually sensitive area. Additionally, Tri-State will follow the "Environmental Criteria for Electric Transmission Systems" prepared by the U.S. Department of Agriculture and the U.S. Department of the Interior and "National Forest Landscape Management, Volume 2, Chapter 2, Utilities," prepared by the USDA in order to reduce the visual impacts of the proposed project.

6.2.5 Cultural Resources

Significant historical and archaeological resources will be protected and preserved throughout construction, operation and maintenance of the proposed project. Tri-State will conduct a comprehensive cultural resource survey at areas of planned disturbance prior to construction in order to investigate the possibility of cultural resources occurrence. The results of this cultural resource inventory will be forwarded to the SHPO, REA and appropriate land managers for review. Should any previously undiscovered cultural resources be uncovered, as a result of this investigation or during construction, ground disturbing activities will cease and the SHPO will be immediately contacted. Tri-State will follow all reasonable requests and recommendations made by the SHPO.

6.2.6 ROW Clearing and Maintenance

In order to mitigate the potential environmental effects of ROW clearing, vegetation will be removed in a manner which will protect the integrity of the surrounding landscape, waterways and wildlife habitat. Construction and maintenance will not require clear-cutting or straight

swath cutting and natural vegetation will be removed only when it poses a hazard to the safe operation of the transmission line or when it will seriously impede construction activities.

The potential effects of maintenance activities on the environment will be mitigated through the use of existing roads for maintenance access as much as practicable. Whenever feasible, routine maintenance work will be performed when roads are firm, dry or frozen to minimize soil disturbance.

In addition, no herbicides or pesticides other than those approved by EPA will be used during construction or maintenance of the proposed transmission line. BLM has a specific pesticide stipulation which will be included in the ROW grants. Application of chemicals will be done in accordance with all applicable Federal, State and local regulations governing the use of such materials. These chemicals will not be used where the possibility of surface water contamination exists. Adequate measures will be taken to prevent or mitigate the effects of spills of fuels, lubricants, or chemicals on surface and ground water.

7.0 CONSULTATION AND COORDINATION

7.1 Introduction

This FEIS has been prepared by REA, the lead Federal agency for the project. BLM and the FS, as cooperating agencies, were requested by REA to review the applicant-prepared Environmental Analysis (Appendix 1, Section 10.0) and provide expertise in the preparation of the FEIS.

Other agencies which were included in the data gathering and/or EIS review process are:

- Environmental Protection Agency
- U.S. Army Corps of Engineers
- U.S. Geological Survey
- U.S. Fish and Wildlife Service
- Federal Aviation Administration
- Federal Communications Commission
- Federal Energy Regulatory Commission
- Federal Highway Administration
- Western Area Power Administration
- Soil Conservation Service
- Advisory Council on Historic Preservation
- Colorado Department of Health
- Colorado Public Utilities Commission
- Colorado Department of Local Affairs
- Colorado Department of Highways
- Colorado State Historic Preservation Officer
- Colorado Division of Wildlife
- Colorado Board of Land Commissioners
- Various local governments in Colorado

7.2 Scoping

Three scoping meetings have been held by REA and Tri-State to identify the significant issues related to the project. These meetings were held at Steamboat Springs on November 28, 1979; Kremmling on November 29, 1979; and Thornton, on December 5, 1979. The meetings held in Steamboat Springs and Kremmling were public information meetings. The meeting held at Thornton was for Federal, State and local agencies.

In addition to the formal scoping meeting, both REA and Tri-State have made numerous contacts with various agencies and individuals. The initial meeting between Tri-State and county and agency representatives occurred on May 5, 1978, at which the study area was delineated. Tri-State then conducted a series of three corridor selection workshops, called Delphi sessions, in Kremmling, Colorado, between May 19 and May 23, 1979. Representatives of Federal, State and local agencies, county commissioners, planners and local citizens attended the workshops. A fourth workshop was held in July 1979, in which corridor delineations were made on the Comarc geo-based sensitivity maps. A list of attendees at the workshops, as well as a summary of other agency contacts made by Tri-State from 1978 through 1981, is contained in Appendix 2, Section 10.0 (attached).

7.3 Major Authorizing Actions

This section contains a summary of Federal, State and local government actions that would be required to implement the project.

Federal Authorizing Actions

Project Feature	Nature of Action	Authority
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DEPARTMENT OF AGRICULTURE

U.S. Forest Service

Yampa, Middle Park and Dillon Ranger Districts

Decision on the project	Record of Decision	40 CFR 1505.2
Technical Site Investigations	Issue Temporary Use Permits	36 CFR 251.54(8)
Power Transmission System (including access, field offices and staging areas)	Grant Special Use Permit	Title V of Federal Land Policy and Management Act of 1976 (90 Stat. 2776, et seq.)

Rural Electrification Administration

Hayden to Blue River Transmission Line Project	Approval of financing assistance for construction and operation of the proposed project for two of the participants	Rural Electrification Act of 1936 (49 Stat. 1363; 7 U.S.C. Chap 31; 7 U.S.C. 901-950[6])
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DEPARTMENT OF THE INTERIOR

Bureau of Land Management

Craig Resource Districts

White River and Kremmling Resource Areas

Technical Site Investigations	Temporary Use Permits	43 CFR 2920.0-3
Power Transmission System (including access, field offices and staging areas)	Grant right-of-way	Title V of Federal Land Policy and Management Act of 1976 (90 Stat. 2776, et. seq.)
Substation and Support Facilities (Middle Park) including access road	Grant right-of-way	Title V of Federal Land Policy and Management Act of 1976 (90 Stat. 2776, et. seq.)

DEPARTMENT OF ENERGY
Western Area Power Administration

Power Transmission System	Issue subordination agreements and crossing permits where 345 kV system encroaches on Western rights-of-way	Energy Organization Act of 1977, 91 Stat. 565
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DEPARTMENT OF DEFENSE
U.S. Army Corps of Engineers

Power Transmission System (River Crossings)	Issue construction or Section 404 Permit	Clean Water Act of 1977, (86 Stat. 816,884, 33 U.S.C. 1251, 1344, as amended)
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DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration

Power Transmission System (near Hayden and Kremmling Airports)	Issue air space permit. Provide airport-related air space determination and air space obstruction clearances for project facilities.	Federal Aviation Act of 1958, Public Law 850746, 8/23/52 (72 Stat. 749, 797; 49 U.S.C. 1347, 1501; 14 CFR 77)
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State Authorizing Actions

Project Feature	Nature of Action	Authority
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State of Colorado
Board of Land Commissioners

Transmission Systems (including access, field offices and staging areas)	Issue right-of-way across land under the jurisdiction of the Colorado Board of Land Commissioners	Colorado Revised Statutes 25-8-101
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Department of Highways

Transmission System	Issue utility crossing permits for State and Federal crossings	Colorado Revised Statutes 38-5-101
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Division of Mined Land Reclamation

Transmission System	Approval of restoration of mined lands	Colorado Revised Statutes 1973, Title 24
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Colorado Department of Health

Transmission Systems (all phases of construction)	Emission permit	Air Quality Control Commission Regulations 1 and 3
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ROUTT, GRAND AND SUMMIT COUNTIES

Transmission System (plus Substations in Grand and Summit Counties)	Issue Special Use Permits	County Zoning Directives
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All project components	Issue Building Permits	County Uniform Building Codes
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7.4 Coordination in Review of the EIS

The following list identifies those agencies and organizations to whom copies of the EIS have been sent.

Federal Agencies

Department of Energy

Department of Energy
Assistant Secretary for the Environment
Division of NEPA Affairs
Attn: Ms. Susan Walker
Mail Station E-201, GNT
Washington, D.C. 20545

Federal Energy Regulatory Commission

Commission's Advisor on
Environmental Quality
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

Department of Agriculture

Deputy Chief, Forest Service
Room 3029, South Building

Administrator
Soil Conservation Service
Room 5105, South Building

Assistant Administrator -
Community Progress
Farmers Home Administration
South Building

USDA Soil Conservation Service
State Resource Conservationist
Attn: Don Gillaspie
P.O. Box 17107
Denver, Colorado 80217

Regional Forester
USDA Forest Service
Region 2
P.O. Box 25175
Lakewood, Colorado 80225

Federal Aviation Administration

Director, Office of Environmental
Quality
Federal Aviation Administration
Room 940
Washington, D.C. 20553

Mr. William O. Lovett
Chief, Air Traffic Operations Branch
Federal Aviation Administration
Rocky Mountain Regional Office
Attn: ARM-530
10455 E. 25th Avenue
Aurora, Colorado 80010

U.S. Environmental Protection Agency

Director, Office of Federal Activities
Environmental Protection Agency
Room 537, West Tower
401 M Street, S.W.
Washington, D.C. 20460

Mr. David Wagoner
EPA Region VIII, Air & Hazardous Materials
860 Lincoln Street, Suite 900
Denver, Colorado 80203

Federal Highway Administration

Regional Federal Highway Administrator
Post Office Box 25246
Denver, Colorado 80225

Department of the Interior

Assistant Secretary - Program
Development and Budget
Attention: Office of Environmental
Project Review
U.S. Department of the Interior
Washington, D.C. 20240

Director, Colorado State Office
Bureau of Land Management
Attn: Sally Collins
1037 20th Street
Denver, Colorado 80202

Regional Director
U.S. Fish and Wildlife Service
P.O. Box 25486
Denver Federal Center
Denver, Colorado 80225

Director's Office
U.S. Geological Survey
Denver Federal Center, Bldg. 25
Denver, Colorado 80225

Bureau of Reclamation
Grand Junction Project Office
Attn: Mr. Ken Ouelette
764 Horizon Drive
Grand Junction, Colorado 81501

Western Area Power Administration

Environmental Manager (A1600)
Western Area Power Administration
P.O. Box 3402
Golden, Colorado 80401

Mr. J. Kelly McBride (L2300)
Area Environmental Specialist
Salt Lake City Area Office
1800 South Rio Grande Avenue
Montrose, Colorado 81401

U.S. Army Corps of Engineers

Colonel Donald O'Shei
District Engineer
U.S. Army Corps of Engineers
650 Capitol Mall
Sacramento, California 95814

Mr. Rodney Wood
U.S. Army Corps of Engineers
U.S. Courthouse, Room 230
400 Rood Avenue
Grand Junction, Colorado 81501

State Agencies

Colorado State Clearinghouse
Mr. Steve Ellis
1313 Sherman St., Room 520
Denver, Colorado 80203

Colorado Water Conservation Board
Mr. Larry Lang
1313 Sherman St., Room 823
Denver, Colorado 80203

Colorado Division of Parks
and Outdoor Recreation
Attn: George T. O'Malley, Jr., Director
1313 Sherman St., Room 618
Denver, Colorado 80203

Mr. Jeris A. Danielson
State Engineer
Division of Water Resources
1313 Sherman St., Room 818
Denver, Colorado 80203

Director
Division of Wildlife
6060 Broadway
Denver, Colorado 80216

Ms. Carolyn Landes
Community Coordinator
Western Slope Energy Research Center
Box 746
Hotchkiss, Colorado 81419

County Agencies

Routt County

Routt County Regional Planning Office
P.O. Box 9017
Steamboat Springs, Colorado 80477

Chairman, Board of Commissioners
c/o Regional Planning Office
P.O. Box 9017
Steamboat Springs, Colorado 80477

Grand County

Director of Planning and Development
Court House
Hot Sulphur Springs, Colorado 80451

Mr. William Needham
Chairman, Board of County Commissioners
Court House
Hot Sulphur Springs, Colorado 80451

Summit County

Mr. Bruce Baumgartner
County Manager
P.O. Box 68
Breckenridge, Colorado 80424

Ms. Judy McBride
Chairman, Board of County Commissioners
P.O. Box 68
Breckenridge, Colorado 80424

Public Libraries

Adams County

Adams County Public Library
Northglenn Branch
10530 Huron
Northglenn, Colorado 80234

Routt County

Werner Memorial Library
Box 9076
Steamboat Springs, Colorado 80477

Grand County

Grand County Public Library
Kremmling Branch
Box 679
Kremmling, Colorado 80459

Summit County

Summit County Public Library
Breckenridge Branch
Box 2359
Breckenridge, Colorado 80424

Interested Organizations and Others

Mr. Eli Yakich
Public Service Company of Colorado
P.O. Box 840
5909 East 38th Avenue
Denver, Colorado 80207

Mr. Al Gabiola
Area Manager
Western Area Power Administration
P.O. Box 11606
Salt Lake City, Utah 84147

Mr. Ken Ogilvie
System Development Engineer
Denver Area Office
Western Area Power Administration
P.O. Box 2650
Fort Collins, Colorado 80522

Mr. Roy Rohla
Engineering Manager
Platte River Power Authority
Horsetooth and Timberline Roads
Fort Collins, Colorado 80525

Mr. Jerry Hamm
Tri-State Generation and Transmission
Association, Inc.
12076 Grant Street
Thornton, Colorado 80241

Dr. Jerry Walker
Colorado-Ute Electric Association, Inc.
P.O. Box 1149
Montrose, Colorado 81401

Ms. Lucy Hilgendorf
Research Director
The Western Network
1700 Paseo De Peralta
Santa Fe, New Mexico 87501

Mr. David Lafever
Housing and Urban Development
1405 Curtis Street
Denver, Colorado 80202

Mr. & Mrs. James Taussig
Taussig Ranch, Inc.
Kremmling, Colorado 80459

Mr. Bruce Butterwick
10125 West 6th Avenue
No. 200
Lakewood, Colorado 80215

Ms. Erva Kopp
3665 South Hibiscus Way
Denver, Colorado 80237

Ms. Sheryl A. Grainger
Environmental science and
Engineering, Inc.
7332 South Alton Way
Suite H-1
Englewood, Colorado 80112

Mr. Fred E. Yost, Manager
Research Services
Utility Data Institute, Inc.
2011 I Street, N.W.
Suite 700
Washington, D.C. 20006

Mr. Rob R. Reid, Project Manager
Espey, Huston and Associates, Inc.
P.O. Box 519
Austin, Texas 78767

Mr. J. M. Teitt
Environmental Specialist
Bechtel Energy Corporation
889 Ridge Lake Blvd.
Memphis, Tennessee 38119

Mr. Douglas Delalo
Town Manager
Box 168
Breckenridge, Colorado 80424

Ms. Gloria W. Coen
Environmental Affairs
Sunoco Energy Development Co.
P.O. Box 9
Dallas, Texas 75251

Ms. Debbie Purcella
Intermountain Logging and Firewood
16390 West 44th Avenue
Golden, Colorado 80403

Mr. Fred Fox
P.O. Box 10
Kremmling, Colorado 80459

Mr. E. H. Opitz
P.O. Box E
Kremmling, Colorado 80459

Mr. Craig M. Weaver
12330 Routt County Road 51B
P.O. Box 189
Hayden, Colorado 81639

Bureau of Land Management
P.O. Box 11568
Salt Lake City, Utah 84147

Mr. David L. Durler, Manager
Environmental Affairs
United States Steel Corporation
600 Winnebago Street
Corpus Christi, Texas 78401

Mr. Fred Schmidt
Documents Librarian
Colorado State University Libraries
Fort Collins, Colorado 80523

7.5 List of Preparers

The following individuals and organizations have participated in the preparation and development of this EIS.

Rural Electrification Administration

As the lead Federal agency, REA assessed the Environmental Analysis submitted by Tri-State and the technical assistance from cooperating agencies to compile this EIS.

Frank W. Bennett - B.S.E.E., M.S. Engineering Administration, Professional Engineer; Director, Power Supply Division

Donald L. Zimmerman - B.S.E.E., Professional Engineer; Power Systems Specialist

Wei Moy - B.S.E.E., Electrical Engineer

Joseph S. Zaversnik - B.S.E.E., Electrical Engineer

Joseph R. Binder - B.S., Chemical Engineering; Director, Environmental and Energy Requirements Division

Charles T. Crowley - Diploma, Marine Engineering; Chief, Environmental Services Branch

Nurul Islam - M.S., Ph.D. - Agriculture; Environmental Protection Specialist, Project Manager

Lawrence R. Wolfe - B.S., M.S. - Resource Management; Environmental Protection Specialist

Gary W. Gilpin - B.S., M.S. - Environmental Science; Environmental Protection Specialist

Jack Shimko - B.S. Biology, M.S. Management; Environmental Protection Specialist

USDA Forest Service

As a cooperating Federal agency, the U.S. Forest Service has participated in the process of compiling this document from the initial scoping process forward.

David J. Davies, Forester, Utilities Program Manager, Division of Recreation & Lands, Rocky Mountain Region

John Costello, Landscape Architect, Routt National Forest

Lee Jensen, Forester, District Ranger

Joel Strong, Forester, Recreation and Lands

Yampa Ranger District, Routt National Forest

(USDA Forest Service, Continued)

Roger Corner, Forester, District Ranger, Middle Park Ranger District,
Arapaho National Forest (Administered by Routt National Forest)

Terry Skorheim, Forester, District Ranger

Barry Sheakley, Forester, Land Uses

Dillon Ranger District, Arapaho National Forest (Administered by White
River National Forest)

Numerous additional Forest Service personnel assisted to varying degrees
throughout the project process.

USDI Bureau of Land Management

As a cooperating Federal Agency, BLM has participated in the process of
compiling this document from the initial scoping process forward.

Sally Collins, Planning and Environmental Coordinator, Colorado State
Office

Gregg Goodnough, Environmental Coordinator, Craig Resource District

Roger Zortman/Harold Belise, Area Manager

Milton Rupp/Elvin Clapp, Real Estate Specialist
Kremmling Resource Area

Numerous additional BLM personnel assisted to varying degrees throughout
the project process.

Tri-State Generation and Transmission Association, Inc.

As project manager, Tri-State developed the Environmental Analysis and
organized the scoping process for this project.

Jerry L. Hamm, Environmental Department Manager

Lucy H. Bowen, Senior Technical Writer, Environmental Department

Richard B. Shafer, Senior Environmental Planner, Environmental Department

Wally Boyd, Drafting and Drawing Control Manager

Comarc Design Systems, Inc.

Comarc compiled the Phase I computer data base and conducted the Delphi
workshop sessions during the initial scoping process.

Ronald Walters, President

Gilbert Castle III, Vice-President

John McMorran, Project Manager

Western Resources Development Corporation

Western Resources compiled Phase II resource data regarding ecological resources (flora and fauna) within the candidate corridors.

David L. Johnson, President

Janet M. Mount, Biologist

Lawrence A. Riggs, Biologist

Wirth Associates.

Wirth developed a composite visual resource analysis system to integrate the systems employed by the U.S. Forest Service and the Bureau of Land Management. Wirth applied this composite system to analyze visual resources in the study area during Phase I and the candidate corridors during Phase II.

Tim R. Tetherow, Vice-President

Lois Brink, Landscape Architect

Mark Figley, Landscape Planner

Dames & Moore

Dames & Moore assisted Tri-State with the revisions of the Final Environmental Analysis for this project.

Ulrich Kappus, Partner

Quentin Bliss, Project Manager

Marilyn M. Stark, Project Administrator

Peter R. Davis, Wildlife Biologist



8.0 REPLIES TO COMMENTS FROM FEDERAL, STATE AND LOCAL AGENCIES AND OTHER INTERESTED PARTIES

8.1 U.S. Department of the Interior (February 2, 1982)

Comment 1

(a) We concur with you that the area contained within the two corridors analyzed (A and B) represents the most logical location for the proposed transmission line.

(b) However, because the impacts of each corridor are analyzed for the whole corridor, rather than 'reaches' or 'subcorridors', it is not possible to derive from the DEIS the impacts of a combination of the two corridors. Table 3 (Page 3-7) provides some of this information, but requires further explanation. We realize that the applicant's environmental analysis analyzes the impacts by segments, and we feel they have done so adequately. The DEIS must summarize this analysis, thus providing the decisionmaker with the option of selecting portions of the two corridors. As it is presently written, the decisionmaker and the public do not have the comparative analysis necessary to do this.

Reply

(a) No response is necessary.

(b) Your comment is noted, and subsequently, additional information has been provided to make comparisons of the corridors using the various combinations of the subcorridors provided in Section 3.5.5.1, including a summary of residual impacts via Table 4. The revised map (Figure 2) along with the additional data presented in Table 3 provide more detailed information and comparison of the subcorridors. Table 3 data may be used to compare the subcorridors and to form transmission line corridors different from Corridor A or B utilizing the various combinations of the subcorridors. Additional information to compare the residual effects in subcorridors has been provided in Table 4 in Section 3.5.5.1.2 of the FEIS.

Comment 2

We recommend that Table 3 be further clarified in the FEIS; specifically, we suggest that a map showing the segments and reaches accompany the table, a brief explanation of the analytical process that resulted in the table be provided and the applicant's EA be specifically referenced and summarized.

Reply

Refer to the response to comment 1(b).

Comment 3

The discussion of transmission line alternatives (3.2.1 - 3.2.3) needs to be elaborated upon. Advantages and disadvantages, including environmental impacts and costs, should clearly explain why these are not feasible alternatives. More specific comments on this point are included in enclosure 1.

Reply

Your comment is noted. The discussion of the transmission line alternatives in Sections 3.5.1 - 3.5.4 have been substantially reorganized and revised as recommended. Reasons why transmission line alternatives (Sections 3.5.1 - 3.5.4) were eliminated from further study have been presented.

Comment 4

Finally, the DEIS does not address the impacts of introducing a major transmission facility into an area otherwise without one (Alternative A). Since Alternative B does not contain existing facilities, the comparison of alternatives should include a discussion of this.

Reply

Your reference to Alternative B as not containing transmission facilities is incorrect. The Western 138/115 kV transmission line exists in the upper reach of Corridor B (segments 9 and 11) and in the lower reach of Corridor B (segments 18, 22 and 24). The data base analyzed for this project was subjected to all anticipated impacts which might result from the operation and maintenance of the project and also the mitigation applied to those impacts. The potential residual impacts were then used to compare the subcorridors and summarized on Table 4 in section 3.5.5.1.2 of the FEIS.

Comment 5

In order for the Bureau of Land Management (BLM) to issue required rights-of-way (ROW) and other permits associated with the proposal, the actual location of the centerline for the proposed ROW and ancillary facilities (including temporary use areas) will have to be submitted to BLM in the form of a plan of operations and maintenance prior to the issuance of the ROW grant and other associated permits. This must be clarified in the FEIS. The factors to be considered in the plan of operations include but are not limited to the ROW width, access, construction techniques, season of construction, clearing of vegetation, wildlife and cultural resource restriction, and rehabilitation. The plan is anticipated to mitigate most impacts which otherwise might occur on BLM lands. Our suggestion is that this be incorporated into the monitoring and mitigation chapter.

Reply

The EIS is based on the corridor approach. The alignments will be known once the final centerline and access road locations are determined. The project manager (Tri-State) will coordinate with BLM and prepare and submit a plan of operations for obtaining the ROW permit. The suggested clarification has been expanded and included in Section 6.1 of the monitoring and mitigation of this report to reflect your comment.

Comment 6

The Fish and Wildlife Service finds that the impacts of the project on fish and wildlife resources are adequately described in the DEIS. They agree that Corridor A appears to be the least damaging alternative to fish and wildlife.

Reply

No response is necessary.

Comment 7

You should be aware that Corridor B (Segment 18) crosses the upper terminus of a segment of the Colorado River that has been identified in the Nationwide Rivers Inventory as having potential for inclusion in the National Wild and Scenic Rivers System. The segment extends from the Blue River to State Bridge (23 miles) and has been reported to have excellent

scenic, recreation, geologic, and fish values. If Corridor B or portions thereof are selected we recommend that the mitigation measures indicated on pages 200-206 of the Environmental Analysis (Appendix 1) be implemented to reduce adverse visual impacts.

Reply

If Corridor B or segment 18 is utilized, the mitigation measures indicated on pages 200-206 of the EA will be implemented to reduce impacts to the Colorado River. This information has been added to the assessment of corridors.

Comment 8

Four areas located within or adjacent to the study corridors have been identified as having the potential for designation as National Natural Land Marks. Descriptions of these areas are enclosed (enclosure 2), as well as information on the process by which the areas were identified. The Kremmling Cretaceous Ammonite Site and Muddy Slide have both been highly recommended for landmark designation. Wolford Mountain and the Gore Range both appear to be nationally significant although further information is needed. We urge that the route selected avoid these areas and that the transmission line be designed to minimize ecologic and geologic impacts where avoidance is not possible.

Reply

The potential significance of Kremmling Cretaceous Ammonite Site, Muddy Slide, Wolford Mountain and Gore Range have been considered in the assessment of the project. Efforts will be made to avoid these areas in the routing of the transmission line. Should the final centerline pass through or adjacent to any of these sites, the National Park Service will be consulted. If necessary, the significance of the feature will be evaluated and appropriate mitigation developed on a case-by-case basis.

Comment 9

The DEIS states that four active coal mines and an active molybdenum, mine tailing area occur in Corridor A, and there are coal leases within Corridor B. Potential land use conflicts have been discussed with the mining companies and no serious conflicts were identified. Other mineral resources found in the region include petroleum, natural gas, and sand and gravel. There does not appear to be any conflicts with these resources.

Reply

Your comment is acknowledged. No response is necessary.

Comment 10

Fugitive dust impacts will be temporary, especially if revegetation occurs. State of Colorado, Colorado Department of Health, Air Pollution Control Division (303/320-4180) should be contacted regarding fugitive dust regulations at the plan of operations stage. No climatic data was presented. It should be emphasized that success of revegetation effort is dependent on proper plant selection for climate conditions.

Reply

Appropriate Federal, State and county governments including the Colorado Department of Health, Air Pollution Control Division, will be contacted to obtain permits and/or licenses for the construction, operation and maintenance of the project. Fugitive dust control is now addressed in

Section 6.1. Acquisition of an appropriate permit is addressed in Section 7.3 of the FEIS. The local Soil Conservation Service (SCS) office or the appropriate land manager will be consulted regarding revegetation techniques and practices. Procedures and methods used by the local SCS offices to establish vegetation were based on such requirements as suitable plant species, climate, etc.

Comment 11

The proposed line will not impact any existing or proposed Bureau of Reclamation projects, nor does it affect directly or indirectly, any Indian lands for which the Secretary of the Interior has a trust responsibility.

Reply

No response is necessary.

Comment 12

The Department of the Interior, through BLM, must issue ROW and other permits for the crossing of public lands. The final EIS should (1) present a comparative analysis of subcorridors or 'reaches' so that the impacts of a combinations of Corridors A and B are clear, and (2) incorporate the factors to be included in the plan of operations for the transmission line.

Reply

(1) Please refer to the response to comments 1(b) and 5.
(2) Section 6.1 of the DEIS modified to add that the plan of operations will address the following: 1) siting of the transmission line, 2) access, 3) soil erosion control, reclamation and revegetation, 4) construction and scheduled maintenance timing, 5) cultural resources, 6) clearing, 7) stream and surface water crossing, 8) protection of existing improvements, 9) water quality, 10) air quality, 11) traffic control, 12) hazardous materials and petroleum products, 13) material specifications, 14) special use areas, 15) wildlife, 16) clean-up, 17) unscheduled maintenance, and 18) ROW management.

Comment 13

Page 1-2, paragraph 5: change wording to ". . . reestablish groundwater" rather than "growth".

Reply

Paragraph 5 refers to the reestablishment of ground cover and not ground water.

Comment 14

Page 1-5 paragraph 1: Change wording to ". . . endangered plant or animal species."

Reply

Your comment is noted and the change made.

Comment 15

Page 1-5, paragraph 3: Address the visual impacts along the Blue River, as well as in the Williams Fork.

Reply

Your comment is noted. The impacts are now addressed in Sections 1.2 and 6.2.4.

Comment 16

Pages 2-1 to 2-3: You should reference the studies indicating the inadequacies of the present system.

Reply

References for the studies have been noted in the first paragraph of Section 2.2 of the EIS. The studies mentioned on page 2-2 of the DEIS are also covered by the same references.

Comment 17

Page 2-4, table 1: Additional discussion on why the power demand is expected to almost double between 1982 and 1983 would add credibility to the projection.

Reply

The projected power demand data on Table 1 in Section 2.3 has been revised to correspond to the REA approved 1980 Power Requirements Study.

Comment 18

Page 3-2 to 3-4: Only one of the upgrading or rebuilding alternatives mentions the use of the existing right-of-way. This is true for all of these alternatives. This section should be expanded to include more complete rationale for the infeasibility of the upgrading and double-circuiting options. As they stand, they do not seem unreasonable alternatives. Table 2 on page 3-4 contains six alternatives, not four explained on the previous pages. Some consistency is required for clarity.

Reply

Additional information has been added in Section 3.5 to show why these alternatives are not feasible. Table 2 has been modified to show five transmission line alternatives including the proposed Hayden to Blue River transmission line alternative. The alternatives of upgrading to Summit have been eliminated because PSCo has agreed to upgrade the 115 kV line between Blue River and Dillon to 230 kV. The proposed line will not need to be extended to Summit.

Comment 19

Page 3-4 to 3-9, Section 3.3: As explained in the general comment, table 3 must be elaborated. A map showing the segment and reaches is essential, as is a brief explanation of how the ratings were derived. Some summarizing and referencing of the applicant's EA would be appropriate. Complete reliance on the applicants' EA, without referencing and summarizing, would leave the EIS devoid of the analysis of subcorridors or reaches. This, in turn, does not provide the decisionmaker the option of selecting portions of both corridors at the decision stage.

Reply

See the response to comment 1(b). The determination of sensitivity ratings has been summarized in Section 3.5.5.1.1 of this report.

Comment 20

Page 3-11, last paragraph: It is difficult to believe that all potential sites for the Middle Park Substation are already disturbed. Please clarify the point.

Reply

We concur. Consider that statement deleted, and additional information has been provided in Section 3.6.2 to clarify this comment.

Comment 21

Page 4-3, paragraph 5: "sloughs" should be "sloughs".

Reply

Your comment is noted and the appropriate change has been made.

Comment 22

Page 4-5, paragraph 3: Add Muddy Creek.

Reply

Consider the additional information provided included.

Comment 23

Page 5-2, paragraph 3: Change wording from "Soil erosion" to "increased sediment yield".

Reply

Consider the change made.

Comment 24

Page 5-4, last paragraph: This paragraph should be revised as follows: Three federally listed endangered species of fish occur in the Colorado River. The current upper most distributional range of the Colorado squawfish (Plycocheilus lucius), the humpback chub (Gila cypha), and the bonytail chub (Gila elegans) is more The Colorado squawfish is also found in the Yampa River downstream of Craig, Colorado. The Colorado River cutthroat trout, listed as endangered by the State of Colorado occurs

Reply

Your suggestion has been considered and the information provided included in Section 5.6.

Comment 25

Page 5-5, paragraph 3: In the preliminary draft, a blue heron rookery was identified here and now deleted. Where is this discussed?

Reply

The blue heron rookery was discussed in Section 5.5 on Page 5-4 of the DEIS.

Comment 26

Page 5-7, paragraph 1: The statement "these lands are not used for any conflicting purpose" should be clarified. There are conflicting demands for the use of public lands in the project area, some of which may be mutually exclusive. One of the purposes of the EIS is to analyze the impacts of this project on existing and potential land uses.

Reply

The purpose of this statement was to show that the present land use activities on public domain lands will not be changed significantly even after the construction of this project, because implementation of appropriate mitigating measures will lead to the development of ecological

conditions capable of supporting the specific land use activity being utilized in any particular area.

Comment 27

Page 5-7, paragraph 4: Do you mean "use of the limited local labor force" or "the limited use of the local labor force"?

Reply

A project of this nature requires a highly skilled labor force and it is unlikely that this type of skilled labor will be available locally; therefore, there will be a limited use of the local labor force.

Comment 28

Page 5-13, table 6: Wildlife critical areas. It is extremely doubtful that there are any wintering areas for greater sandhill cranes in either corridor.

Reply

Your comment is noted and the reference to greater sandhill cranes wintering areas has been deleted (see Table 8 of FEIS).

Comment 29

Page 5-14, Section 5.23: Possible impact on cultural and visual resources need to be considered.

Reply

REA anticipates no known cultural resource conflicts within the project area, which cannot be avoided. Section 5.19 on the visual resources has been revised to include detailed discussion on the visual impact.

Comment 30

Page 6-1, paragraph 3: BLM will also provide compliance officers for BLM lands.

Reply

Your comment is noted. The plan of operations will address the various stipulations necessary to obtain permits and licenses from all the authorities concerned including BLM to construct and operate the transmission line.

Comment 31

Page 7-2: BLM no longer issues Special Use Permits; only Temporary Use Permits. Preference Right Leases are not going to be issued as part of this project and should also be deleted.

Reply

The comment noted. Consider the change made.

Comment 32

Page 6-1, Section 6.0: This section should include measures to prevent or mitigate the effects of spills of fuels, lubricants, or chemicals on ground water.

Reply

The project will have only limited use of EPA approved herbicides, pesticides and other chemicals. These materials will not be stored near

water areas to prevent effects of spills on surface or ground water. Design and procedures outlined in REA Bulletin 65-3: Design Guide for Oil Spill Prevention and Control at Substations - will be used to prevent and, if necessary, mitigate spills.

8.2 U.S. Forest Service (February 2, 1982)

Comment 1

We have one general comment; in preparing your Final EIS, the reason for preferring the Williams Fork (segment 20, 23 and 24) over the Lower Blue River (segments 18, 21, 22 and 24) should be very clear and adequately supported.

Reply

The project participants explored all reasonable alternatives for the proposed transmission line. REA has determined that Corridor A is the preferred alternative based on environmental analysis. Information and analyses presented in the Sections 3.0 and 5.0 support this conclusion. The composite rating shown on Table 3 for subcorridor 28 in the lower reach is 14.3. This compares favorably to 37.8 which is the composite rating for subcorridor 32. These composite ratings are adequately supported in Appendices 1 and 2 (Section 10.0). Residual effects are discussed in Section 3.5.5.1.2 and summarized in Table 4.

Comment 2

Page 1-5, Section 1.2 - Visual Resources: We believe visual resources are the most significant impact of those listed and further elaboration is needed to understand this impact clearly. Recreation visitor day use in the Blue River area alone amounts to 207,000 for 1981. The Ute Pass Road is paved with scenic turnouts and is used by Denver area residents as access to the Williams Fork Valley. The DEIS makes no mention of this use in the Williams Fork area.

Reply

Section 1.0, as it is titled, is a summary. Section 5.19 addresses potential visual impacts and summarizes the methodology for visual analysis contained in Appendix EA. Since this analysis was done prior to 1981, the commentor's current recreation visitor day use numbers are not reflected. Relative recreation visitor day use numbers were used and the utilization of the Ute Pass Road was included in that analysis. The Ute Pass Road, although open to and certainly used by the public, was built and is maintained by AMAX for the sole purpose of providing access to their Henderson Molybdenum Mine and Mill.

Section 5.19 of the FEIS has been expanded. Section 6.2.4 addresses mitigation of these potential impacts. Sections 3.5.5.1.2 and 5.20 summarize residual effects.

Comment 3

Section 1.3.2 - Federal Actions: Three alternatives are proposed by REA: Alternative 2 is approval of the proposed project with restrictions. We do not understand this alternative. It seems the decision by REA would be either to approve or disapprove the project. The restrictions would be in the various permitting and granting processes by various agencies and private individuals.

Reply

Normally, when REA approves a loan, conditions such as obtaining all the appropriate Federal, State and local permits or submitting an appropriate mitigation plan are requirements for release of funds. REA, however, may also approve a loan with other specific restrictions. These conditions would be in addition to those restrictions required by other agencies.

Comment 4

Pages 3-1 through 3-11, Sections 3.1 - Project Alternatives, through 3.5.3 - Direct Current Construction, lists and explains the various alternatives. It is difficult to understand how some of the alternatives listed are alternatives to the proposal. In other words, we believe some are not parallel alternatives. For example, how are 3.2 - Transmission Line Alternatives, 3.3 - Corridor Alternatives, 3.4 - Alternative Constructon Methods, and 3.5 Alternative Transmission Line Design, alternatives to the No Action Alternative or generation curtailment? The alternatives described in the EA (pages 26 through 38) appear to be the logical approach. Tri-State's proposal is basically moving bulk power from Hayden to various substations in the Middle Park and the Blue River area. Alternative transmission line design is not an alternative to moving bulk power. We suggest using the format presented in the EA.

Reply

This comment is noted. Section 3.0 has been reorganized to reflect the above suggestion.

Comment 5

Pages 3-2 and 3.2, Section 3.2 - Transmission Line Alternatives and Section 3.3 - Corridor Alternatives. We do not understand the breakdown of these two headings. It seems like these sections could be combined.

Reply

Section 3.0, Alternatives, has been reorganized to reflect your comments. We believe there is a logical progression in Section 3.0 and, for the sake of the integrity of the document, it should be retained. For example, if upgrading of existing facilities were chosen as the preferable transmission line alternative to meet the project need, then there would be no need to analyze any other candidate corridors. If the decisionmaker, on the other hand, determines that the proposed project is needed, the candidate corridors must be analyzed. Options must remain all throughout the decisionmaking process. The reorganization of Section 3.0 accomplishes this in a logical fashion.

Comment 6

Pages 3-6 and 3-7, Section 3.3.1 - Corridor Selection Process. This is one of the most confusing sections in both the DEIS and EA. It is very difficult to follow and understand how the corridors were selected. Table 3, page 3-7 does little to assist. As a result of the difficulty to understand how the selection process occurs, Tri-State Generation and Transmission Assoc. sent us a letter explaining the process, along with a revised Table 3 (now Table 6). To assist us in understanding the selection process we combined Tri-State's Table 6, and Table 5.4-1 (page 142 of the EA). The revised table is attached. Also, we used the corridor segment map (Figure 5-18 of the EA) in the review. By using the combined table and the segment map the corridor selection process becomes clear. We strongly advise REA to place the revised table, the corridor segment map and Tri-State's letter in the final EIS so the process can be understood.

Reply

Your comment is noted. Refer to the responses to comments 1(b) and 3 of the Department of the Interior letter. The revised corridor alternatives discussion provides more detailed information with a new map (Figure 2) showing the corridor reaches and segments and data on the composite ranking of subcorridors as suggested. Contents of the referenced letter are included in Section 3.5.5.1.1 to clarify the corridor selection process. The section on corridor alternatives now contains discussion on the residual effects expected in each of the reaches of Corridors A and B (Section 3.5.5.1.2).

Comment 7

Page 3-6, 2nd paragraph, last sentence: This describes the subcorridors and segments of Corridor B. Corridor B consists of Subcorridor 4, segments 1, 6, 9, 11 and 12S; Subcorridor 22, segments 14, 15 and 17N; and, Subcorridor 32, segments 18, 21, 22 and 24. How do you get from segment 12S, in Subcorridor 4 to segment 14, in Subcorridor 22? Also, how do you get from segment 17N in Subcorridor 22 to segment 18 in Subcorridor 32?

Reply

It was determined that the use of segment 13 in every subcorridor in the middle reach is counter-productive. Segments 17N and 17S were analyzed separately to determine which was most suitable. The data summarized in Table 3 was applied to each subcorridor in the middle reach with segment 13 included and, where appropriate, with both segments 17N and 17S. When the subcorridors are ranked in this manner, the results remain the same. Subcorridor 21 is the best and subcorridor 22 is the second-best (after residual impacts are considered).

Comment 8

It appears that Subcorridor 24, with segments 13, 14, 15 and 17N should have been selected along with segment 17S to connect with segment 18 in Subcorridor 32.

Reply

As you have pointed out, Corridor B is not a continuous, connected corridor, given the fact that segments 13 and 17S are excluded from the middle reach of the corridor (see response to comment 7). However, Corridor B is not intended to be a connected, total corridor alternative to Corridor A. Instead, it allows a reasonable, feasible alternative to portions of the preferred corridor (A). Segments 13 and 17 are pivot points at which one could leave the preferred corridor and choose portions of the second-best corridor. Since Corridor A is the environmentally preferred corridor, it would be better to at least use part of A than to use none of it. Corridor B allows the option of deviating from the preferred corridor in any of the three reaches, without forcing the decisionmaker to choose all of A or all of B.

Comment 9

Page 147 of the EA footnote states: "to allow the reaches within Corridor B to be connected, minor areas within segments 13 and 17S of the middle reach of Corridor A will be crossed." How does this variance fit with the overall analysis of the corridor selection process without segments 13 and 17S?

Reply

As explained in the response to comment 7, the exclusion of these two segments from the middle reach of Corridor B makes no difference in the subcorridor ranking. To include segments 13 and 17S in all subcorridors would have been redundant.

Comment 10

Page 3-3: A discussion should be made of the possibility to remove the two existing electrical transmission lines in the Blue River Valley and replacing them with the proposed or with a double circuit or larger transmission line.

Reply

The existing 69 kV system is presently functioning as a subtransmission line and it also serves as a backup transmission path to serve the loads in the Middle Park and Walden areas. Walden and Muddy Pass are presently served by a radial 69 kV line from Gore Pass. If the 69 kV subtransmission line between Gore Pass and Green Mountain were removed, and an outage occurs on the 138/69 kV transformer at Gore Pass, Walden and Muddy Pass areas could experience extended power blackouts. Since the line serves as a backup for loads, removing it would reduce the reliability of the electrical service for the Middle Park and Walden areas.

Removing the existing 138/115 kV line foregoes the useful life of the facility. The transformation of voltage levels is essential for transmitting electrical power efficiently and effectively to consumers. The existing 138/115 kV line provides the subtransmission required to deliver the electrical power at the required voltage level. Electrical demand in the Middle Park area is substantial enough that the existence of a subtransmission line, in addition to the proposed transmission line, is warranted to ensure reliability in contingency situations.

Additional information regarding the concerns has been added to Section 3.5 of the Final EIS.

Replacing the existing line with a larger (higher voltage) line would not eliminate any of the requirements for a subtransmission system. As previously discussed, the subtransmission system is required to deliver electrical power within the Middle Park area.

Comment 11

Page 4-4: Grizzly bear do not inhabit the area.

Reply

Grizzly bear, as stated, have been recorded in the area.

Comment 12

Page 5-1, Section 5.1, Geology and Seismology and page 147 of the EA: Were the areas described in the DEIS and the EA removed before the ratings made for each segment? If not, what effect did they have on selecting the preferred corridor?

Reply

The geologically unstable areas discussed in Section 5.1 were not eliminated in the Section 3.0 analysis of segment sensitivity. As can be seen through review of the Section 3.0 of the FEIS, this did not affect the

selection of the preferable subcorridor segments. These areas were not removed from the corridors prior to corridor rating, but this had no effect on the relative ranking of these corridor segments. For example, the largest area refined out of the original corridor boundaries was the mass movement (landslides) area in the lower reach of Corridor B. While deleting this area did make this reach more viable, it still does not make it preferable over the lower reach of Corridor A. The large amount of area classified as having high soil erosion potential was the major factor in the lower geotechnical rating for the lower reach of Corridor B. Therefore, removing the mass movement (landslides) area from that reach did not make the reach preferable to Corridor A's lower reach, but it did make it a better alternative than with the mass movement (landslides) area included.

Comment 13

Page 3-10, Table 4 - characteristics of Transmission Line Structures: The cost of aluminum structures (because of needing to dull them) would add significantly to the total project cost. Table 4 shows that the aluminum lattice structures cost less per mile than self-supporting steel lattice. The table should reflect the cost of dulling the aluminum. If the aluminum is not dulled, it is not acceptable on National Forest Lands.

Reply

Your comment is noted. Appropriate changes have been made in determining the cost of aluminum lattice structures with dull finish (Table 5 of the FEIS).

Comment 14

Page 5-7, Section 5.13 - Public Domain Lands: Last sentence states "REA considers that the impact on these lands will not be significant, since these lands are not used for any conflicting purpose." We do not understand that statement. Impact on BLM lands from the transmission line could be high because of less terrain relief and limited trees to screen the transmission line.

Reply

Please refer to the response to comment 26 of the Department of the Interior letter. The BLM, along with other appropriate land management agencies, will be consulted to minimize the visual impact of the transmission line, especially when it passes through sensitive areas.

Comment 15

Section 5.14 - Recreational Resources: There is recreational use around Williams Fork Reservoir and Ute Pass which should be a part of the consideration in the analysis.

Reply

The project poses no foreseeable effect on the recreational use of the municipal water resource at the Williams Fork Reservoir. The recreation use of the Ute Pass area has been accounted for in the visual analysis of potential impacts of the project. Aside from visual effect, REA sees no significant impact on the recreation resources in the Ute Pass area.

Comment 16

Page 5-13, Greater sandhill crane do not winter in Colorado, but in Mexico and New Mexico. Therefore, reference to impacts on these species' winter range are incorrect.

Reply

Your comment is noted. References to greater sandhill crane wintering areas have been removed from the text.

Comment 17

Mitigation 20: The decision of closing the construction road will be made by the Forest Service on National Forest System lands, not by Tri-State Generation and Transmission.

Reply

The project participants will comply with all stipulations outlined in the plan of operations for obtaining ROW permit from the FS to construct, operate and maintain the transmission line on the land BLM manages.

Comment 18

Mitigation 22: Colorado State Law speed limit is 20 mph on narrow winding mountain highways and 40 mph on open mountain highways. The mitigation should reflect State Law.

Reply

Your comment is noted and the appropriate change has been made. Tri-State will advise construction crews and other personnel associated with the construction, operation and maintenance of the project to adhere to traffic regulations in the project area. Tri-State will post signs at appropriate places advising the motorists of construction traffic.

Comment 19

Mitigation 25: It is not clear what is meant by ". . . reduce problems such as weed growth around the base of the transmission towers." Normal practice is to revegetate the disturbed areas around the towers with grass, forbs or shrubs, depending on the vegetative type in the area.

Reply

This mitigation No. 25 will generally apply to farmland where control of weed growth around the base of the transmission towers may be a problem. However, on Federal lands, revegetation practices will be followed as recommended by the appropriate land management agency.

Comment 20

Page 6-1: There does not seem to be any specific consideration on mitigating or monitoring water quality.

Reply

No significant impact on water quality is anticipated due to this project. Only erosion and sedimentation generated especially during construction may temporarily affect water quality. Erosion prevention techniques will be employed during construction of the line and routine inspections will be carried out in maintaining the line. If serious erosion problems develop in certain areas, measures will be taken to minimize the amount of erosion.

Comment 21

Page 7-2: Under Federal authorizing actions, add to the Department of Agriculture the following: Decision on the project Record of Decision 40 CFR 1505.2 change FSM 2712 to 36 CFR 251.54(8). Remove the following: "Preference Right Lease Areas" "Issue Lease (including subordination agreements)" "Mineral Leasing Act of 1920 (30 U.S.C. 201-6)"

Reply

The above changes are noted. Consider the change made.

Comment 22

Preference Right Leasing deals with phosphate sodium, potassium, sulphur or hard rock minerals on acquired lands, if a discovery is made under a prospecting permit. We do not see where this is an action that is necessary to implement the project. In fact, the Forest Service does not issue preference right leases, BLM has that authority. Also, why would construction of a transmission line be involved in preference right leasing.

Reply

We concur. Consider the change made.

8.3 U.S. Department of Transportation - Federal Highway Administration
(January 22, 1982)

Comment 1

Thank you for the opportunity to review the Draft Environmental Impact Statement (DEIS) on the proposed Hayden to Blue River 345 kV Transmission Line Project (your reference number USDA-REA-EIS(ADM): 82-2-D). We find that the DEIS adequately addresses our concerns.

Reply

No response is necessary.

Comment 2

We note that you have coordinated this document with the Colorado State Highway Department. We would encourage and request that you continue a close working relationship with them as this project develops and is constructed, particularly with respect to the proposed Colorado State Route 9 (scenic and recreational highway) mentioned on page 5-14 under section 5.22.

Reply

The project has been coordinated with various Federal, State and local agencies including the Colorado Department of Highways. The plan of operations will be coordinated with the Colorado Department of Highways to obtain a permit for highway crossings. Tri-State will also coordinate its efforts in routing the line with the Colorado Department of Highways in consideration with a potential impact to Colorado State Route 9, if any.

8.4 U.S. Environmental Protection Agency - Region VII (February 5, 1982)

Comment 1

The DEIS is generally well written and comprehensive. Relative to impacts on water quality, we encourage you to work very closely with the Soil Conservation Service and other appropriate land management agencies in order to minimize erosion-related water quality impacts.

Reply

Regarding soil erosion control, please refer to the response to comment 20 of the U.S. Forest Service letter. Furthermore, all area soils would be subject to erosion hazards where disturbed by construction. Construction operations, whenever practicable, would be scheduled during the dry season or on frozen ground.

Comment 2

According to the system the EPA uses to rate Draft EIS's, the Hayden-Blue River 345 kV transmission line project DEIS will be listed in the Federal Register as LO-1. This means we have no objections to the project as proposed. If you have any questions regarding our comments, please contact Dennis Sohocki at FTS-327-4831.

Reply

No response is necessary.

8.5 Department of Housing and Urban Development (March 5, 1982)

Comment 1

Your DEIS has been reviewed with specific considerations for the areas of responsibility assigned to the Department of Housing and Urban Development (HUD). This review considered the proposals compatibility with local and regional comprehensive planning and impacts on urbanized areas.

Reply

No response is necessary.

Comment 2

Your proposal will create a reliable source of additional electrical energy for the Front Range (eastern slope) of Colorado. The 'secondary' impacts of the Front Range population growth should be discussed in relationship to this additional available energy. With this exception, the DEIS is adequate for our purpose.

Reply

While certain social and economic impacts of the project can be accurately determined, others cannot. The proposed project will provide electrical energy for the development of economic growth for the areas in Wyoming and Colorado including the Front Range of Colorado. Population growth is not a direct function of the availability of electrical energy. Therefore, to discuss the population growth resulting from this project is beyond the scope of this EIS.

8.6 U.S. Department of Transportation - FAA (January 7, 1982)

Comment 1

We have reviewed the Draft Environmental Impact Statement on the Hayden - Blue River 345 kV Transmission Line Project. As it does not affect aviation transportation, we have no comments to offer.

Reply

No response is necessary.

8.7 Colorado - Division of Wildlife (February 8, 1982)

Comment 1

We have reviewed the above cited project and concur with the presentation and interpretation of wildlife data. The evaluation of wildlife impacts as they relate to corridors A and B appear accurate.

Reply

No response is necessary.

Comment 2

We feel, however, the wildlife mitigation proposal needs further clarification. Mitigation proposal items 5, 6 and 7 on page 6-2 of the DEIS states that certain procedures will be instituted whenever practicable. We believe the term "practicability" must be defined in these cases. Mitigation 2 is inconclusive. We assume the power line will not be constructed within a one-fourth mile distance of any documented sandhill crane staging and/or dancing ground and sandhill crane and great blue heron nesting areas. Actual construction activities must be avoided during mating and nesting seasons for a distance greater than one-fourth mile. This distance to be determined by the Division of Wildlife (DOW) and the U.S. Fish and Wildlife Service (USFWS) during selection of the right-of-way. Item 5 should state that mitigation for golden eagle nest disturbance will be conducted as per USFWS and DOW recommendations. Mitigation item 8 should state that construction activities on mule deer and elk winter ranges will be avoided while occupied by those species. This should be subject to DOW consultation. It is necessary that item 9 also be subject to DOW consultation.

Reply

REA believes that the mitigation proposed for the wildlife in the project area is adequate. Certain mitigation procedures will be instituted, whenever practicable; that is, these measures will be used unless economics and recommended engineering practices dictate otherwise. Furthermore, the project participants are committed to implement certain mitigation measures irrespective of their practicability, for example, the project will avoid impacts to critical habitats for the threatened or endangered species. Your observation concerning the mitigation 2 is correct, i.e., no construction will take place within a one-fourth mile distance of any known greater sandhill crane or great blue heron nesting areas. In reference to the avoidance of the construction activities during mating and nesting seasons, the applicants will meet all specific mitigating measures required by the regulations of the FWS. Construction scheduling will be covered in the plan of operations as discussed in Section 6.1 of this report. Wildlife mitigation measures as stated in Section 6.2.2 will be implemented as per FWS recommendations. REA believes that the DOW should coordinate with the FWS, BLM and FS to insure that DOW concerns are adequately considered. There are three mitigation items (8, 9 and 10) that apply to elk and mule deer management and it is REA's opinion that the elk and mule deer concerns are adequately covered by these items.

Comment 3

The selection of the power line right-of-way is a critical element of line construction. It can also greatly influence the potential impacts of construction, maintenance, and operation of the line upon wildlife. Therefore, we would like the opportunity to participate in the final selection of the power line right-of-way.

Reply

The selection of the transmission line ROW will be coordinated with appropriate Federal, State and local agencies and private landowners.

8.8 Colorado Geological Survey (January 26, 1982)

Comment 1

Adverse geologic conditions in the area have been evaluated by qualified geotechnical personnel, and proper mitigation measures have been recommended and should be followed.

Reply

Your comment is noted.

Comment 2

Additional, site specific investigations should allow avoidance or mitigation as necessary.

Reply

This issue has been addressed in Section 6.2.1 of the FEIS.

8.9 Colorado Department of Highways (February 4, 1982)

Comment 1

District III of the Colorado Division of Highways has reviewed the Draft Environmental Impact Statement for the Hayden-Blue River Transmission Line and noted that the proposed transmission line will cross several state highways in northern Colorado.

Reply

No response is necessary.

Comment 2

Prior to crossing these state highways, utility crossing permits will have to be obtained from our Maintenance Superintendent in Craig -- Mr. Jack Kier, 270 Ranney Street, Craig, Colorado 81625. This permit requirement should be identified in the Final Environmental Impact Statement for this project.

Reply

The requirement of obtaining permits, licenses, etc., for the construction, operation and maintenance of the transmission line is identified in Section 7.3 of the FEIS.

8.10 Colorado Historical Society (February 2, 1982)

Comment 1

The Rural Electrification Administration has stated that a cultural resource survey will be completed to identify any sites in the impact area that may be eligible to the National Register of Historic Places. Upon completion of the survey, a determination of effect must be made on all sites officially determined eligible. This should be done at the earliest stages of planning and prior to any construction activities. We anticipate consultation with this office once the survey has been completed.

Reply

Your comment is noted. Detailed archaeological surveys will be carried out by Tri-State as soon as practicable after the centerline has

been determined. No ROW clearing or line construction will be initiated until the procedures prescribed in the Advisory Council on Historic Preservation regulations 36 CFR 800.4 - 36 CFR 800.6 have been carried out.

8.11 Colorado Department of Health (March 2, 1982)

Comment 1

Air Pollution Control - REA should be advised that a fugitive dust permit from the APCD will be required prior to construction of the transmission line. Recognition of this fact should be included in the final EIS under 6.2 Mitigation, since steps will be required to control the dust caused by earthmoving.

Reply

Your comment is noted. Section 6.1 in the final EIS has been expanded to include a plan of operations that will address air quality and Section 7.3 addresses State authorizing actions for obtaining permits from the Colorado Department of Health.

8.12 Routt County - Board of County Commissioners (February 4, 1982)

Comment 1

The applicant for a special use permit for a major facility of a public utility shall have submitted the following information to the Planning Commission: A site plan, elevation, perspective and written description of the proposed use.

Reply

The project manager will apply for a special use permit for the project from Routt County by submitting a plan of operations. Your concerns will be adequately addressed and Tri-State will comply with all the provisions specified in the special use permit. For details, please see Section 6.1 of the FEIS.

Comment 2

Evidence that the applicant consulted with and/or applied to the Routt County Regional Planning Commission no later than application was made to any other authority having or asserting jurisdiction over the use.

Reply

The project participants have coordinated with all local governments including the Routt County Planning Commission from the very early planning stages. The following is an example:

Pre-scoping meeting - May 3, 1978, Kremmling, Colorado. County representative - Diane Blake.

Public information meeting - November 15, 1978, Kremmling, Colorado. Routt County was formally invited to attend but did not attend.

Public Agency Planning workshops - May-June 1979, Kremmling, Colorado. County was represented by John Hess and David Yamada.

Scoping meeting - November 28, 1979, Steamboat Springs, Colorado.

The meeting was conducted by REA. County was represented.

Interagency meeting - December 5, 1979, Thornton, Colorado.

County representative was present at the meeting.

Project progress meeting - July 17, 1980, with John Hess, Routt County Planner.

Meeting with Steve Hill, Routt County Planner, October 14, 1980.

Routt County BOCC meeting - April 7, 1981. General discussion was held on the project.

Routt County BOCC meeting - February 2, 1982. General discussion on the DEIS prepared by REA.

Comment 3

That such use complies with all height and safety requirements as may be imposed by the Federal Aviation Administration where such use is located within the approach zones of public or private airports and emergency landing strips.

Reply

The project was coordinated with the FAA. The FAA determined that the Hayden to Blue River transmission line project will not affect aviation transportation. Please refer to U.S. Department of Transportation - FAA letter (Appendix 4, Section 10.0).

Comment 4

The project shall be used to serve a documented public need.

Reply

The need for the project has been discussed in Section 2.0 of this report.

Comment 5

Sufficient distance shall separate uses of the project from abutting properties which might otherwise be damaged due to the operation of the proposed use.

Reply

The ROW width for the transmission line could vary from 41 m (135 ft) to a maximum of 61 m (200 ft). The land use impact will be limited to the land used for ROW. The total land area displaced by the occupation of towers is estimated at about 3.8 ha (9.4 a) for the entire line.

Comment 6

An explanation shall be made in writing of methods to be used to minimize smoke, odors, dust, noise, natural hazards, impacts on critical wildlife habitats and similar environmental problems which might result from the operation of the proposed use and in accordance with the requirements of Sections 8.4 and 8.7 of this Resolution.

Reply

The plan of operations in Section 6.1 will address all of your concerns to insure that construction, operation and maintenance of the line will conform with requirements of your County.

Comment 7

Truck and automobile traffic to and from project's uses shall not create hazards or nuisances to areas elsewhere in the County.

Reply

Impacts due to construction vehicles in the project area are adjudged to be local and temporary. REA anticipates no significant adverse impacts due to traffic in the project area. Tri-State will advise construction crews and other personnel associated with the construction, operation and maintenance of the project to adhere to traffic regulations in the project area.

Comment 8

Satisfactory proof shall be given that any structures, facilities, lines or pipelines will be properly maintained.

Reply

The project will be properly maintained with respect to its structures and other related facilities by the project participants.

Comment 9

Project use shall minimize the use of intensive cropland, including irrigated meadows and pasture land, cropland used for dryland agriculture, lands along valley floors intermingled with but not dedicated to cropland, and farm and ranch headquarters.

Reply

REA's findings show that the project area has very limited amounts of cropland. Consequently, the proposed project is unlikely to have adverse significant effects on agricultural activities along its route. However, line routing will attempt to avoid or minimize impacts to agricultural activities to the maximum extent practicable. Transmission line will be located on existing property lines where practicable.

Comment 10

Project use shall minimize conflicts with existing and planned uses.

Reply

The comment is noted. The design parameters of the project will be coordinated with county officials so as not to interfere significantly with the existing and future land uses in the area.

Comment 11

Project use shall reflect site selection to minimize adverse impacts on subsequent development of mineral resource areas, approved or planned reservoir sites, and deposits of construction aggregates.

Reply

The project is not known to have any adverse impacts on the concerns above.

Comment 12

All proposed above-ground appurtenances of the project shall avoid "tunnel effect" of clearing visible from a population concentration or major transportation route. Avoid clear-stripping of right-of-way. Avoid creation of access scars visible as above. Avoid visually unique scenic vistas. Preserve as much as possible the natural landscape. Minimize alteration of the slope or aspect of any hillside.

Reply

The comment is noted. The transmission line and the facilities will be designed, constructed and maintained to have minimal impact on visual resources, recreational areas, topography, etc. Section 1.2 of the EIS has discussed vegetation clearing procedures for construction, maintenance and operation of the line. The project will not employ clear cutting or swath along the ROW and access roads. Vegetation growing in the ROW that could interfere with the operation and maintenance of the line will be topped rather than cleared. The degree of the impact will depend upon the line's compatibility with the surroundings, available screening, tower configurations, and the number and proximity of viewers and how sensitive they may be to visual intrusion. Admittedly, visual impacts will result from the introduction of transmission line structures. However, the final centerline selection will use guidance of Environmental Criteria for Electric Transmission Systems (USDA and USDI, 1970) to minimize adverse visual impacts.

Comment 13

Project use whose curvature, grade or other constraint inherent in such use tends to require alignment along valley floors or public ways shall:

- (a) reflect avoidance of the applicable impacts of this section
- (b) provide for recompaction to restore the original density of disturbed irrigated ground
- (c) provide for the restoration of the approximate original slope of hillside and ridge cuts and minimize the width of clearing and cuts.

Reply

These concerns are noted in Section 6.1 of the FEIS.

Comment 14

Before any Special Use Permit may be issued for a major facility of a public utility, the applicant shall furnish evidence of a bank commitment of credit in favor of Routt County, or a bond or certified check in an amount calculated by the Board of County Commissioners, to secure the site restoration in a workman like manner and in accordance with specifications and construction schedule established or approved by the appropriate engineer and the Board of County Commissioners. Such commitment, bond or check shall be payable to and held by the Board of County Commissioners of Routt County. (November 23, 1976)

Reply

Your comment is noted.

Comment 15

In reviewing these provisions, it is the Board of County Commissioners' responsibility to ensure that any electric transmission line serve a need and be aligned and designed so as to minimize determinental impacts. Until this public review process is completed, the Routt County Board of County Commissioners believes it is premature to comment specifically on the DEIS, but reserves its findings until they review the Special Use Permit request. This position is underscored since Corridors A and B cross at the eastern boundary of Routt County., Thus, the alignment within Routt County should not be a major factor in determining the preferred corridor in Grand and Summit Counties.

Reply

Your comment is noted.

Comment 16

As part of the County's Special Use Permit review process, the impact of the proposed facilities to the Yampa Valley Airport, weed control, and the reduced tax revenue generated to the County due to the tax exempt status of the Platte River Power Authority will be of particular interest to Routt County. In addition, the County would like to have the EIS address the desirability of the possibility of installing a 345 kV line adjacent to the existing Hayden-Green Mountain-Summit 138/115 kV line.

Reply

The FAA letter, dated January 7, 1982, concerning the Hayden to Blue River transmission line project states that the project does not affect aviation transportation in the project area. Procedures for controlling weeds will be addressed in the plan of operations (Section 6.1). The utilization of existing ROW between the Hayden Generating Station and the proposed Blue River Substation was considered by Tri-State. Routing a new line adjacent to an existing line severely limits the ability to avoid environmental, engineering and socioeconomic constraints that could be avoided or affected to a lesser degree if a new route is selected. The constraints summarized below would make constructing a 345 kV line adjacent to the existing transmission line environmentally less preferable than constructing the line in a new corridor.

In the upper reach, the existing line traverses: 1) 4 km (2.5 mi) of land slated for surface mining, 2) 24 km (15 mi) of grouse mating and nesting areas, 3) 34 km (21 mi) of land with high soil erosion potential, 4) 25 km (15.5 mi) of land within the maximum visual constraint category, 5) more than 50 km (31 mi) is within the foreground view of four communities, two highways and two recreational areas.

In the middle reach, the existing lines traverse: 1) 4 km (2.5 mi) of grouse mating and nesting areas, 2) 19 km (12 mi) of land with high soil erosion potential, 3) 17 km (10.5 mi) of land within the maximum visual constraint category, and 4) more than 38 km (24 mi) is within the foreground view of five National Forest campgrounds, two highways and a recreational area. The 138 kV line also crosses Colorado Highway 134 eight times and bisects the Gorewood Estates Subdivision.

In the lower reach, the existing lines traverse: 1) 8 km (5 mi) of the Colorado River floodplain, 2) 19 km (12 mi) of lands subject to mass movement or with high soil erosion potential, 3) 12 km (7.5 mi) of grouse mating and nesting areas, 4) 43 km (27 mi) of land within the maximum visual constraint category, 5) within the foreground view of one community and nine National Forest campgrounds, and 6) 21 km (13 mi) of critical mule deer winter range. Existing lines are also adjacent to one bald eagle roost site, three active golden eagle nests and one active prairie falcon nest.

An itemized listing by corridor segment of the constraints associated with siting the Hayden to Blue River transmission line in or adjacent to the existing Western 138/115 kV ROW is contained in Appendix 5 (Section 10.0).

8.13 Summit County - Board of County Commissioners (February 5, 1982)

Comment 1

No Action Alternative - We do not believe the need for this project (at least the southern end) has been sufficiently demonstrated by the information presented to date. Two specific questions that we feel need to be answered are: a) which companies' customers are going to pay the millions of dollars in construction costs and where do they reside, and b) which companies' customers are going to be the users of the electricity carried in this line and where do they reside.

Reply

The four project participants will share the cost for the project as follows: Tri-State, 50 percent; Colorado-Ute, 20 percent; Platte River, 20 percent; and Western, 10 percent. The service areas for three of the project participants together with PSCO are shown in Figure 1 of this report. We have not depicted the Western's service area in Figure 1, since it encompasses a 15 states area. The project participants will collect the cost of the project over its expected life from their customers through their rate structures.

The needs for the southern end of the line are to 1) provide additional transfer capability to reliably serve the participants' eastern Colorado and Wyoming loads during an outage of the Craig-Ault 345 kV line, 2) to provide increase system stability and reliability to the Hayden and Craig generation by providing an additional interconnection with another source of power, 3) to reduce the loading and electrical losses on the 230/138 kV transformers at the Hayden Substation and on the existing Hayden to Green Mountain 138 kV transmission line, 4) to provide increased capability for Western to deliver power between western and eastern Colorado, and 5) to provide an opportunity for economic interchanges of power with utilities to reduce the cost of power to consumers and for fuel conservation. Without the southern end of the line, the above needs will not be met.

Comment 2

Upgrading Existing Hayden-Green Mountain-Summit Line Alternative - We do not believe this alternative has received adequate consideration. The only disadvantage stated is that the existing line would need to be out of service for 8-10 months during construction of the new line. We have a hard time believing that given the level of planning and engineering at the participating companies and the construction techniques available that the old line would need to be out of service prior to a new line being available. With some realignment or widening of the ROW construction should be able to take place without disturbing existing service. If this is not possible, does that mean we are forever stuck with all existing lines and that the only solution is to keep adding new lines elsewhere?

Reply

Your comment is noted. Please refer to the response to comment 16 of Routt County - Board of County Commissioners.

Comment 3

There needs to be a landscaping design, access road, and construction techniques plan done for the entire line, not just that part to be constructed on Forest Service or BLM land.

Reply

We agree. Please see response to comment 1 of Routt County Board of County Commissioners.

Comment 4

Corridors A and B should not be considered to be an either/or situation, but the flexibility of combinations should be available.

Reply

Additional information has been provided to examine the corridors using various combination of segments (Section 3.5.5.1.2). Please see response to comments 1(b), 2 and 3 of the Department of the Interior.

Comment 5

The possibility of placing parts of the line underground where it makes environmental sense should not be ruled out.

Reply

The comment noted. The effects of installing the transmission facilities underground are discussed in Section 3.5.5.2.1 of this report. Installation of the transmission facilities underground is considered not feasible for various reasons including high costs of construction, inherent maintenance problem, etc. It is estimated that constructing one km of the line underground will cost about \$1.5 million compared to about \$149,500 for an overhead line. Therefore, constructing the line underground even for a short distance for environmental reasons is not considered feasible for this project.

Comment 6

The criteria to be considered and the process for preparing and reviewing the detailed "operations plan" need to be spelled out in the Final EIS and should specifically address:

- (a) Where within the corridors the line will be placed.
- (b) Which areas would be constructed by helicopter versus which areas would be constructed overland.
- (c) Where new roads would be built and where reclamation would take place.

Reply

Until such time as the centerline for the transmission line is selected, it is not possible to determine the specific impacts or mitigative measures. The final EIS, therefore, can address only generalized impacts, e.g., number of stream crossings, highway crossings, the severity of the erosion hazards, potential impacts to water quality, flood hazards, etc. Your concerns will be addressed in the plan of operations as described in Section 6.1 after the final centerline, access road locations and substation sites are determined for the project.

Comment 7

The feasibility of Federal funds being available through REA for this project, given the current Federal Fiscal philosophy, should be addressed.

Reply

REA finds that the project generally meets its requirements in receiving financing assistance based on the present Federal Fiscal philosophy.

Comment 8

Summit County would oppose any Forest Service, BLM, or County special use permits being issued to construct the line in this corridor unless it can be shown that the line would, in addition to meeting all other applicable regulations in effect at the time of construction be consistent with the County's Master Plan Policies, specifically: (a) each development involving a change in land use or major subdivision should be analyzed on a fiscal impact (cost/benefit) basis, (b) development should be analyzed for environmental and visual appropriateness, (c) development outside urbanized areas should be encouraged to have little or no visible impact, (d) maintenance of views from public areas will be encouraged, (e) guaranteed landscaping and revegetation should be required in all development, (f) be consistent with the County's request for Scenic Highway designation for Highway 9, (g) be consistent with the placement of private ranch land into Conservation Trusts which is now in progress.

Reply

Your comment is noted. Impact of this project to any planned developments will be analyzed and presented to the County authority for obtaining a Special Use Permit. Environmental concerns including the visual impact to population centers, public areas, highways, etc., have been discussed in Sections 3.5.5.1.2 and 5.0 of the FEIS. The project will be planned in consideration with the scenic highway designation for Highway 9 and also with the Conservation Trusts Program in progress.

Comment 9

We believe that all of the above issues need to be addressed in the Final Environmental Impact Statement prior to a decision being made. We would ask you to respond directly to us on any issues that will not be so addressed.

Reply

Your comment is noted.

8.14 Summit County - Planning Department (February 2, 1982)

Comment 1

The Planning Commission felt it was difficult to assess the proposed locations due to the width of the mapped corridors (Corridor B appears to encompass the entire Blue River Valley in Summit County). However, in general, the lower Blue Planning Commission felt that any new corridor should not be located in the Blue River corridor in Summit County (Corridor B) due to the following:

1. The power line and structures would be impossible to hide due to the lack of heavy forest on the east side of the Blue River, thereby impairing the visual amenities of Summit County's Lower Blue River Valley.

2. The recently adopted Summit County Master Plan Goals and Policies call for maintenance of views from public areas (Highway 9 is considered such an area).

3. In order to help maintain the scenic qualities of the Lower Blue River Valley, Summit County has requested that Highway 9 be designated a scenic highway. A new power line corridor would adversely affect visual amenities from the highway.

4. Private property owners in the Lower Blue have been cooperating in protection the rural aesthetic quality of that area by placing hundreds of acres of rangeland into conservation trusts.

Reply

The project participants have studied all possible alternatives to routing the proposed line from Hayden to Blue River Valley. Results indicate that Corridor A is the environmentally preferred while Corridor B is also an environmentally acceptable corridor. The project participants have coordinated with Federal, State and local agencies to find the environmentally most suitable routing for this project. The project is based on corridor approach as opposed to centerline. The corridor approach has proven a satisfactory compromise for local government, land management agencies and private landowners to reach the most satisfactory compromise for environmental considerations. REA recognizes that whenever a transmission line is constructed there will be some visual impact to the area. Once the final ROW is determined, mitigative measures may be identified to minimize any visual impact. The project manager will coordinate its efforts in routing the line with land managers/landowners, as appropriate, in consideration with the designation of Highway 9 as a scenic route and also with the scenic quality of the area in question.

8.15 Grand County - Board of County Commissioners (January 28, 1982)

Comment 1

Two parallel powerline right-of-ways currently exist in the "B" corridor south of Kremmling. These lines (138 kV and 69 kV) are owned by Western Area Power Administration which is one of the participants in the new project. It is the opinion of the County that before a completely new right-of-way is established in the "A" corridor, the lines now in the "B" corridor should be cleaned up by combining one or both with the new line.

Reply

Please refer to Section 3.5 of the EIS and the response to comment 10 of the U.S. Forest Service letter.

Comment 2

There are additional opportunities in the "B" corridor in Grand County which were not evaluated fully in the DEIS. Such opportunities lend themselves to utilizing portions of the existing right-of-way in combination with establishing some new right-of-way. The County would like the DEIS to evaluate an option of double circuiting the 138 kV WAPA line with the 345 kV line from the Gore Pass Substation down to the Kremmling Tap. From this point the old line could continue to the existing right-of-way and the new line could utilize the eastern portion of the "B" corridor. This option shortens the line length in the south half of the project; allows connection to the "A" corridor if it is utilized for the north half of the project; avoids two crossings of Highway 40 and minimizes visual impact along Highway 9; will probably not significantly increase the project costs; and will allow for easier maintenance of the new line.

Reply

Your comment is noted. The transmission line alternatives of building a 138 kV and 345 kV double circuit line with portions of the existing ROW have been discussed in Section 3.5 of the FEIS. We disagree that siting the line in the lower reach of Corridor B will necessarily shorten line

length. Maintenance accessibility depends on many factors, such as terrain snow covers, etc.

Comment 3

The DEIS fails to address conflicts between the proposed "A" corridor and the Wolford Mountain Reservoir now proposed by Grand County. The reservoir was not officially announced when the DEIS was prepared. Now that it has been announced it is very important that any conflicts are discussed in the Final EIS.

Reply

The corridor width in segments 17S and 19 varies between 2.5 km (1.5 mi) and 4 km (2.5 mi), which would allow wider flexibility in routing of the line. The exact location of the proposed reservoir is yet to be disclosed by Grand County. Assuming the pool extends up to segment 17S in Corridor B, siting the line should not be interfered with construction of proposed dam in Corridor B. In any event, Grand County officials will be consulted in determining the ROW for the line to avoid/or minimize impacts to the proposed reservoir.

Comment 4

The DEIS fails to address the great potential for environmental degradation due to road construction and maintenance. Both visual and water quality impacts could be quite extensive particularly in the "A" corridor south of Kremmling.

It may not be possible to fully address these issues in the DEIS. The Grand County Special Use Permit requirements will address these issues when the application is submitted and reviewed. Any information that is provided in the Final EIS could serve to accelerate local review.

Reply

Both visual and water quality impacts are discussed in Section 5.0 of the FEIS. Adequate mitigative measures will be employed to minimize these impacts on the environment. The plan of operations will address all issues and concerns necessary to obtain the Grand County Special Use Permit to construct, operate and maintain this line. We must point out that soil erosion potentials in the lower reach of Corridor B exceed those in the lower reach of Corridor A (Section 3.5.5.1.2).

Comment 5

Additional information should be provided concerning the justification for building the line to 345 kV instead of 230 kV. This information should specifically address the need for the larger line south of the Gore Pass Substation. The projections of Mountain Parks Electric would seem to indicate that the majority of the loading will occur east of the substation. It may be that capacity needs south of this point do not justify the larger line.

Reply

The need for the line is discussed in Section 2.2. The transmission line project is proposed to be built at 345 kV and operated initially at 230 kV. The 345 kV voltage level was selected for the proposed line due to possible future power transfer needs during outage conditions. Long-range studies, prepared jointly by electric utilities in the Colorado and Utah areas, indicate that additional transmission capacity other than one new

230 kV line will be required between the Hayden and Dillon area by the 1990's. Construction of the proposed line at 345 kV will reduce the need for additional bulk transmission line in the future, thus reducing possible additional environmental impact to the area. The desire to construct at 345 kV to eliminate future environmental impact was expressed by county and agency representatives during the scoping meetings. Another consideration for selecting 345 kV voltage for the proposed transmission line was that the majority of future high voltage transmission lines in the area are proposed to be 345 kV. Construction of the proposed transmission line at 345 kV will allow it to be compatible with the future bulk transmission system of Colorado and its neighboring areas.

8.16 Grand County - Department of Development and Planning
(February 5, 1982)

Comment 1

In our opinion, the decision as to corridor choice should be as general as the information presented in the DEIS. We believe that the final conclusions should provide for the utilization of Corridor A, Corridor B and any combination of the two that is technically feasible. Such a decision is required in this case to allow maximum flexibility when the centerline is reviewed by local officials.

The local review process will include a review by the County Planning Commission and a public hearing before the Board of County Commissioners. The County review will be totally independent of the REA decision. Our jurisdiction over Federal lands within our boundaries has been confirmed in Federal court. We would not like to play out a scenario which involved designation of a corridor by REA that the County could not accept. This could result in litigation brought by the proponents or in a rewriting of the EIS. Either of these products would waste a considerable amount of time and money.

Reply

Additional information has been provided in Section 3.5.5.1.1 to examine Corridor A versus Corridor B utilizing combinations of different segments/subcorridors. Table 3 data provide opportunity to compare the subcorridors and to form transmission line corridors different from Corridor A or B. Additional information to compare the residual effects in subcorridors has been provided in Table 4 in Section 3.5.5.1.2 of the FEIS. Corridors A and B are the product of intensive investigations and are considered environmentally suitable corridors. Jurisdictional issue is between Grand County and the Federal agencies involved. REA wishes to avoid any legal conflicts over a project which is needed to meet the projected power needs in the participants' service areas.

Comment 2

The "Purpose and Need" section of the DEIS fails to mention that the additional load requirements in the Eastern portion of Colorado and in Wyoming far outweigh the needs in the immediate vicinity of the new line. Based on information presented at the hearing, Mountain Parks Electric will utilize only 15 to 20 percent of the new line capacity. This fact is not clear in the DEIS and it is a major feature of the project.

Reply

The need for the project has been demonstrated in Section 2.0 for all the project participants. Section 2.3 deals with Tri-State's and Platte

River's need to serve their eastern Colorado and Wyoming member loads during a contingency outage of the existing Craig-Ault 345 kV line. The proposed project will also improve Tri-State's power supply reliability to Mountain Parks by providing another transmission source from Hayden to the Middle Park area.

Comment 3

The DEIS provides little justification for continuing the 345 kV line south of Gore Pass Substation. Public Service serves Summit County and they appear to have adequate facilities for many years in the future. The southwest portion of Grand County is not growing very fast and will probably not require anything close to 345 kV capacity in the next several years. Even though the 115-138 kV Green Mountain Line is overloaded, it will not require a 345 kV line to relieve the loading. It has yet to be shown that a 230 kV line will not suffice for this leg of the proposal.

Reply

Please consult Section 2.0 for need for this project and refer to response to comment 1 of Summit County Board of County Commissioners and to comment 5 of Grand County Board of County Commissioners' letter for the requirements of power and voltage of the line.

Comment 4

The primary disadvantage of uprating or double circuiting listed on page 35 of Appendix I is that the existing line must be out of service during construction. This disadvantage is very easily overcome by building the new line adjacent to the old line and then taking down the old line and abandoning its right-of-way. This results in the same environmental impacts without interruption of service. In addition, the project cost for alternative 4 on page 33 is much less than the proposed action. This would seem to be the most logical alternative and should be further explored and addressed in the FEIS.

Reply

Taking the existing line out of service denies the continued useful life of the line. It has been shown that power needs in the area are substantial enough to warrant the existence of both the existing line and the proposed line. With both the lines in service, reliability will be enhanced. For detailed discussion please refer to Section 3.5 of the EIS. The alternative to replact the existing 138 kV line with a double circuit 230 kV line has similar disadvantages as the alternative of replacing the existing 138 kV line with a 345 kV line. In addition, the capacity of the double circuit 230 kV line is only approximately two-thirds that of a new 345 kV line and the existing 138 kV line. Therefore, the high cost per megawatt of capacity for the double circuit 230 kV line alternative along with the other disadvantages precluded this alternative from being a feasible alternative.

8.17 Craig M. Weaver (February 5, 1982)

Comment 1

This letter is in regards to the Tri-State Electric Co. Draft Environmental Impact Statement for a power line through Routt, Grand and Summit Counties, Colorado. It came to my attention only today, February 5, 1982, that a Draft EIS on this project was available and that the Public

Comment period ends on February 8, 1982. As an adjacent property owner to the Bureau of Reclamation Station at Hayden, Colorado, I would have expected that Tri-State would have been required to file a public notice in the legal section of both newspapers in Routt County. This was not done.

Reply

REA believes the coordination of the project with Federal, State and local agencies and also with local individuals has been adequate. Given below are some examples by which the project participants sought input from the local people:

(a) January 31, 1979: The Daily Press of Routt County, article on meeting with project participants and Routt County BOCC.

(b) February 1, 1979: Steamboat Springs Pilot, news article on meeting with project participants and Routt County BOCC.

(c) Public Scoping meeting, November 28, 1979, Steamboat Springs, REA conducted the meeting.

(d) Steamboat Pilot, Legal Notice, November 22, 1979, and also a news article appeared on November 15, 1979.

(e) Craig Daily Press, Legal Notice, November 26, 1979, and also a news article appeared on November 22, 1979.

(f) Interagency meeting, Thornton, Colorado, December 5, 1979, Public Notice, Steamboat Pilot, November 22, 1979, Craig Daily Press, November 26, 1979.

(g) December 5, 1979: The Daily Press, news article on November 28 public scoping meeting held in Steamboat Springs with REA and project participants.

(h) December 6, 1979: Hayden Valley Press, news article on the same as above.

(i) December 6, 1979: Steamboat Pilot, news article on the same as above.

(j) August 28, 1980: Steamboat Pilot, news article regarding aerial corridor surveying being done in area for preliminary data for Hayden-Blue River Project.

(k) Public Notice of availability of Draft EIS: Federal Register
Routt County Publications:

The Daily Press Legal Notice, January 14, 1982

The Daily Press Advertisement, January 28, 1982

The Daily Press News Article, "Powerline Comments Sought,"
January 26, 1982

Comment 2

Further, I would have expected Tri-State to hold Public Meetings in Hayden, Steamboat Springs and Yampa, Colorado to inform the public of what the program is that they are proposing. This was not done.

Reply

Numerous public and agency meetings were held to solicit input from the public and Federal, State and local agencies on this project. Given below are some examples:

(a) Pre-scoping meeting, May 3, 1978, Kremmling, Colorado, County Representative: Diane Blake.

(b) Public Information Meeting, November 15, 1978, Kremmling, Colorado, Routt County Representative did not attend.

(c) Public and Agency Planning Workshops: May-June 1979, Kremmling, Colorado, Meeting was attended by a number of County representatives and public.

(d) Public Scoping Meeting, Conducted by REA, November 28, 1979, Steamboat Springs, Colorado, Routt County representatives attended the meeting.

(e) Public Notice of the Meeting

(i) Federal Register Vol 44, November 9, 1979, Page 65112

(ii) Routt County Publications:

Steamboat Pilot: Legal Notice, November 22, 1979

News Article, November 15, 1979

Craig Daily Press, Legal Notice, November 26, 1979

News Article, November 22, 1979

(f) Interagency meeting, Thornton, Colorado, December 5, 1979. County Representative: John Hess

(g) Project Progress Meeting, July 17, 1980. County Representative: John Hess

(h) Project Progress Meeting, October 14, 1980. County Representative: Steve Hill

(i) Meeting with Routt County Commissioners at BOCC Meeting, April 7, 1981.

(j) Meeting with BOCC, Planning Commission Members, February 2, 1982.

Comment 3

Further, I would have expected the proposal to have been properly brought before the Routt County Regional Planning Commission for their comments and input. This was not done.

Reply

Please refer to the response to comment 2 of the Routt County letter. The applicants will apply for a Special Use Permit for the project from Routt County by submitting a plan of operations.

Comment 4

Further, I am diametrically opposed to a power line project which has a partner, Platte River Power Authority, who has a tax exempt status in Routt County.

Reply

The comment is noted.

Comment 5

Question, is the REA operating with different guidelines than other agencies and companies in the handling of Draft EIS's. This is certainly not the way that the BLM, Forest Service, OSM or other agencies handle a Draft EIS program.

Reply

All Federal agencies, REA included, conduct their environmental review process in an attempt to be responsive to the regulations of the CEQ and NEPA. REA procedures are probably not identical to those of BLM, FS or OSM. However, REA's guidelines and procedures for implementing NEPA have been reviewed and approved by CEQ. For instance, some agencies hold public meetings prior to publishing a Draft EIS and a public hearing afterward. REA does not generally hold public hearings subsequent to publishing a

Draft EIS. REA does invite public comment and involvement through meetings, notices, etc.

Comment 6

I would appreciate that the deadline on this Public Comment period be extended a minimum of 120 days so that Tri-State will have sufficient time to inform the public of their intentions and a review of the document Draft EIS may be made.

Reply

All comments received as of April 15, 1982, have been included and responded to in this document.

8.18 Fred Fox (January 29, 1982)

Comment 1

In an earlier letter to Mr. Frank Zoller of REA, I pointed out the need for subsequent environmental reports to address the need for this line and its environmental impacts in specific detail. The current DEIS report sufficiently addresses the need for this line, so I won't dwell on this aspect. With the need established, the issue of location becomes paramount since, frankly, in this era of environmental concern, no one in his right mind would want a transmission line such as this in his backyard or to create irreversible impacts upon the environmental quality of the Colorado mountain areas.

Reply

Upon independent evaluation of the corridor alternatives, REA finds corridor routes (A and B) are both environmentally acceptable and have the least environmental impacts. However, Corridor A is the preferred route while Corridor B is also an acceptable alternative route. The project participants will closely coordinate the project with local land management agencies including affected landowners taking visual resources and environmental concerns into consideration while routing this line. Understandably, a project of this nature and scope will have some irreversible impacts which cannot totally be mitigated.

Comment 2

In terms of visual resource preservation, the Environmental Analysis (Tri-State) clearly depicts the moderate to high visual quality of the lower reach of Corridor B which should be retained to the greatest extent possible. Highway 9 is heavily traveled by residents and visitors to Colorado, and preserving the visual quality in this Corridor is an essential political ingredient in maintaining Colorado's national image as having maintained a high level of environmental quality in the face of rapid growth.

Reply

See response to comment 8 of Summit County Board of County Commissioners, February 5, 1982.

Comment 3

The land use conflicts along the lower reach of Corridor B are more extensive and can therefore be more readily avoided by locating the line in Corridor A.

Reply

Major consideration in determining the impacts of the transmission line corridors/subcorridors/segments are: 1) geotechnical features, 2) ecological resources, 3) land use, 4) visual resources, 5) cultural resources, and 6) socioeconomic resources. Details of these environmental issues are presented on page 3-7 of this report. A summary of comparison of some significant impacts in Corridors A and B are given in Table 8 in Section 5.20. Section 3.5.5.1.2 of the FEIS describes the analysis of residual effects. Table 4 summarizes these residual impacts by subcorridors. This analysis suggests that the residual impacts would be greater in the lower reach of Corridor B than in the lower reach of Corridor A.

Comment 4

The conflict with wildlife, a particular concern of mine, is substantially less in the lower reaches of Corridor A rather than Corridor B. The one exception is the large elk calving area in Corridor A south of the Williams Fork Reservoir. This area should be completely avoided during final center line selections. It is essential that elk calving areas remain undisturbed.

Reply

Irrespective of the corridor selected for this transmission line, the project participants will coordinate the construction schedules with the appropriate land management agencies and landowners in order to avoid impacting, to the extent practicable, wildlife species and their habitats. The plan of operations described in Section 6.1 will address the project schedule, maintenance, operation, etc. There are three mitigation measures, 8, 9 and 10 which specifically apply to elk and mule deer management. It is REA's opinion that the elk and mule deer concerns are adequately covered by these items.

Comment 5

Some concern with the Corridor A selection will undoubtedly be expressed by some people in Grand County. In terms of the lower reaches of both the A and B Corridors, I would like to point out that the old 69 kV line which has been proposed to be replaced by the new line, was located without the benefit of an environmental analysis. The idea of replacing this line with the new 345 kV line in the lower reach of Corridor B is not sound when judged using the information contained in the Environmental Analysis. I hope this point is not lost on you and others involved in the final center line location decisions.

Reply

As a point of clarification, neither the REA nor the project participants have proposed the replacement of the existing 69 kV line. Please refer to response to comment 10 of the U.S. Forest Service letter for reasons why the existing 69 kV line cannot be removed.

Comment 6

I wish to commend all those involved with the preparation of the environmental documents for doing a thorough job. I agree with the selection of Corridor A as the preferred corridor for the location of this new transmission line. Thank you for the opportunity to respond.

Reply

No response is necessary.

8.19 E. H. Opitz (February 8, 1982)

Comment 1

The final date for receipt of written comments should be extended to February 15, 1982.

Reply

No general extension of the comment period beyond February 8, 1982, was granted. All comments received as of April 15, 1982, have been included and responded to in this document.

Comment 2

We object specifically to the Corridor A location east of the William's Fork Mountains on the basis of impact on private land holdings as compared with a possible route well within public land, along the western side of the mountains.

Reply

Various corridor alternatives to the proposed facilities were studied. It was determined that Corridor A is the environmentally preferred route. Specific impacts, for example, impacts on private versus public land, can not be assessed until the centerline of the transmission line is established. Our analysis indicates that more than 50 percent of the land in Corridor A and about 34 percent in Corridor B are public lands.

Comment 3

Further refinement of the EIS should require more specific analysis of routing within Corridors A and B, use of existing power routes, use of existing lines, and should not yet determine the selection between Corridors A and B.

Reply

The comment is noted. Please see response to comments 1(b) and 2 of the Department of the Interior letter for corridor alternatives and Section 3.5 of the FEIS for transmission line alternatives. Using the revised transmission line alternative data in Table 3, corridors comprising combinations of the subcorridors were compared. It is REA's determination that Corridor A is the environmentally preferred corridor. Corridor B and combinations of the subcorridors of A and B as presented are also environmentally acceptable corridors.

Comment 4

The final selection process for alternate corridors and specific center line locations should be left to the local (County, USFS, and BLM) planning and public hearing process so that intelligent, detailed evaluation of all factors can be made by people with specific, local knowledge of the problems.

Reply

Your comment is noted. REA, as lead agency for environmental compliance, must ascertain that environmentally acceptable corridors exist through which the line can be routed. REA has determined that Corridor A

is the environmentally preferred corridor while Corridor B is also an environmentally acceptable alternate corridor. Appropriate Federal, State and local agencies and private landowners will participate in determining the final centerline location for the line within the corridors.

Comment 5

The transmission line is needed to serve the public interest as related to regional power requirements. It's location should be selected in a manner to least impact nonbenefited private individuals along the route.

Reply

REA finds that Corridors A and B are the best overall routes for this project and they would cause the least environmental impacts along the route. The proposed project will benefit consumers in the proposed project area as well as consumers in eastern Colorado and Wyoming.

Comment 6

Tri-State/REA is not giving adequate response time for submittal of thought-out and specific comments to REA by February 8, 1982. The draft EIS is complex and lengthy, very general, and hard to analyze as far as specific impacts. Concerned individuals who desired to make a responsive comment needed to wait until they could get questions answered at the Public Hearing. Tri-State did not schedule this hearing until February 4, 1982 and made it more difficult by postponing the hearing the day it was scheduled, from 2 P.M. until 4 P.M., without notifying the public. Area ranchers did arrive for the 2 P.M. hearing to be told the meeting wouldn't be until 4 P.M.

Tri-States not scheduling this hearing until February 4 and then postponing the time on the day of the meeting does not leave adequate time to get comment to REA by February 8, 1982.

Reply

Please see response to comment 1 of your letter. All comments received as of April 15, 1982 have been included and responded to in this document.

Comment 7

The method of analysis used to compare corridors, although based on fairly detailed work seems to lose the impact of specific area problems and concerns in the end result. In the case of Corridor A vs Corridor B, Lower Reach, there are specific areas within each corridor that have, in our opinion, different comparisons than the summary results indicate.

The corridors as compared are very wide and include within each corridor vastly different areas and exposures to impact. Specifically, the Blue River Corridor, (Corridor B - Lower Reach) has some good opportunities for line location with minimal impact, along with some locations that could have major impact. Detail comments on this corridor are difficult to make without a more specific route location.

Reply

Corridor selection was based on individual segment analysis and their residual effects. Section 3.5.5.1.2 of the FEIS presents the analysis of

residual effects and Tables 4 and 8 summarize the residual impacts. For specific impacts, please see response to comment 2. The project participants will continue coordinating closely with all interested parties to determine centerline locations of the line within the studied corridors in order to lessen the impact to the environment.

Comment 8

At the general level of the Draft EIS, no detail analysis is given for some of the following options in the Lower Reach: Maximizing use of existing corridors in the Kremmling and Green Mountain areas by parallel lines, double-circuiting, upgrading of existing lines, etc., all of which can feasibly be done without shutting down the existing lines, as the draft EIS alleges.

Reply

Please see the response to comment 10 of the U.S. Forest Service, comment 16 of Routt County-Board of County Commissioners and also additional information given in Section 3.5 on the transmission line alternatives.

Comment 9

Installation of a new line along the western flank of the William's Fork Mountains, high above highway 40, well within public lands, yet still in open, untimbered terrain.

Reply

Generally the corridor widths vary between 3.2 km (2 miles) and 6.4 km (4 mi). This offers considerable flexibility for routing the line. The commentor must have meant Highway 9 rather than 40. Whether the U.S. Forest Service would approve and whether engineering constraints would allow locating at the elevation suggested will have to be determined. Such a route would be located in Corridor B which at this time is judged to be less desirable corridor from an environmental standpoint.

Comment 10

The corridor/highway crossing analysis in the Kremmling area as presented by Alternate A requires 3 highway crossings. The job is presently being done with one crossing. Why is this?

Reply

Exact number and location of crossings of highways, streams, etc., will not be available until the final centerline has been determined. The plan of operations as discussed in Section 6.1 will address these concerns. Your reference as to the number of crossing of highways by the transmission line in the Kremmling area is incorrect. For information, the Hayden to Green Mountain line crosses Highway 131 once, Highway 134 twelve times and Highway 9 twice. The Green Mountain-Summit line crosses Highway 9 at least three times between Green Mountain and Blue River Substation site.

Comment 11

We specifically object to the Corridor A location in the Lower Reach along the eastern flank of the William's Fork Mountains. The probable center line location could likely be in or near private lands for almost the entire length along the eastern side of the mountains. Construction access will be through private lands in many places. There will be an

adverse short term impact due to construction problems and adverse long term impacts resulting from scenic degradation and ambient noise level. Many of the private holdings in this area are residential or recreational in nature and impacts of this sort will have a major adverse affect on quality of life and land values.

Reply

The proposed route is the result of extensive studies and analyses conducted for this project. Corridor A in its entirety is the environmentally best overall route for the facility. Construction of the line will be coordinated with the local land management agencies and land-owners by taking the visual resources and other environmental concerns into consideration while routing the line. Transformers at substations will emit a continuous low-level hum. Noise levels at the substation sites should not exceed 55dB at a distance of 15 m (50 ft) under normal weather conditions. If excessive noise levels are encountered that would interfere with the quality of life in surrounding residential areas, proper control measures will be applied.

Studies of the impact of utility easements upon land values have been inconclusive. Earley and Earley Associates have conducted a study to determine the effects of the Hayden to Blue River transmission line on the land values resulting from the acquisition of the easements. They documented no detrimental effects or easement damages on the land value resulting from an easement. REA believes that the construction of this line will not substantially affect the value of the property in the vicinity of the ROW.

Comment 12

This will also affect ultimate land values of agricultural holdings for the same reasons.

Reply

The Soil Conservation Service has evaluated the impacts of the line and has determined that no prime farmland will be affected. Livestock grazing is one of the main agricultural activities in the project area. Livestock grazing can continue on transmission line ROW. Other farming activities can also be carried out in the similar fashion as they were prior to construction of the line in the ROW. Also see response to comment 11.

Comment 13

It seems the previously mentioned route along the western slope of the Williams's Fork Mountains, in public land and well away from present or possible future development is far better in this respect.

Reply

This viewpoint is appreciated. Length of access roads and high cost of construction due to rugged terrain will most likely be unattractive features of this alternative.

Comment 14

However, again due to the general nature of the DEIS it is hard to specifically comment on either corridor.

Reply

Impacts of the project were based on the corridor concept rather than centerline. Therefore, the effects of the project are general in nature rather than specific. Admittedly, the corridor approach is more general than establishing proposed centerlines. To use proposed centerlines would involve the expenditure of substantial sums of money for surveying and engineering of alternative corridors. The corridor approach has proven a satisfactory compromise for environmental reviews while allowing adequate flexibility for local government and private landowners to reach the most optimum centerline route within the corridors.

Comment 15

The final date for receipt of written comments should be extended to February 15, 1982.

Reply

Please see response to comment 1.

Comment 16

We object specifically to the Corridor A location east of the William's Fork Mountains on the basis of impact on private land holdings as compared with a possible route well within public land, along the western side of the mountains.

Reply

Please see response to comment 2.

Comment 17

Further refinement of the EIS should require more specific analysis of routing within Corridors A and B, use of existing power routes, use of existing lines, and should not yet determine the selection between Corridors A and B.

Reply

Refer to response to comments 3, 5, 8 and 14.

Comment 18

The final selection process for alternate corridors and specific center line locations should be left to the local (county, USFS and BLM) planning and public hearing process so that intelligent, detailed evaluation of all factors can be made by people with specific, local knowledge of the problems.

Reply

Your comment is noted. REA's primary objective is to select the overall best plan for the project by using all of the above avenues.

Comment 19

The transmission line is needed to serve the public interest as related to regional power requirements. It's location should be selected in a manner to least impact non-benefited private individuals along the route.

Reply

Refer to response to comment 5.

8.20 Town of Breckenridge (March 10, 1982)

Comment 1

The Town Council endorses the Williams Fork Route for the 345 kV transmission line and recommends the Board of County Commissioners of Summit to do likewise.

Reply

No response is necessary.

8.21 Western Area Power Administration (March 10, 1982)

Comment 1

We have reviewed the draft environmental impact statement (DEIS) for the Hayden-Blue River 345 kV transmission line project. We have found the document to be adequate for our purposes and feel the document discusses the environmental ramifications of the Hayden-Blue River project. However, we feel that the discussions on the nature of Western's participation in the project needs to be expanded in the document. Western is a participant in the project, and by agreement, will finance 10 percent of the project costs. The extent of this participation plus that of the other participants needs to be addressed in the document.

Reply

Your comment is noted. The proposed Hayden to Blue River 345 kV transmission line project is the joint effort of Tri-State, Colorado-Ute, Platte River, and Western. Tri-State is the project manager and other participants are involved in the project by agreement. The four above participants will share cost for the project approximately as follows: Tri-State, 50 percent; Colorado-Ute, 20 percent; Platte River, 20 percent; and Western, 10 percent.

Comment 2

Neither the DEIS nor the background appendices fully describe the situation of the Hayden Substation which is operated by Western. The DEIS on page 3-11 implies that the Hayden Substation will not need expansion, but only bus work additions to accommodate the Hayden-Blue River transmission line. It should be stated further that terminal facilities for the Hayden-Blue River transmission line have already been constructed under a separate action. The need for the separate action stemmed from the fact that the original transformer bank at the Hayden Substation was continuously overloaded due to unforeseen scheduling practices, the desire to provide full plant capacity at the Craig and Hayden units, dominant power flows to the west through the 138 kV system, and accelerated load growths. To prevent the overloading of the transformer, Western and participants in the Hayden Plant decided to curtail generation to a net of 400 MW. To reduce the need for generation curtailment, Western and the participants decided to install a second transformer bank (stage 03) at Hayden which was completed by Western in May 1980. The installation of the second transformer bank reduced the jeopardy of participant outages by increasing transformation capacity, thereby, allowing greater operating flexibility. In designing and constructing the second transformer bank, Western was also able to provide terminal facilities for the Hayden-Blue River line. Therefore, additional construction will not be required at the Hayden Substation.

Reply

Your comment is noted. Appropriate changes have been made in Section 3.6.1 to reflect the above comments.

Comment 3

It was stated that the Bureau of Reclamation (Bureau) prepared the environmental document for the Hayden Substation expansion. The environmental impact of expanding the Hayden Substation was addressed in a Negative Determination of Environmental Impact (March 24, 1978), prepared by Western, not the Bureau. The Bureau document (November 14, 1973), covered the Hayden Substation stage 02 additions for accommodating the Yampa Project (Craig Station) generation.

Reply

The comment noted and the change made in Section 3.6.1 to reflect the above comment.

Comment 4

The project addresses the use of helicopter construction. Western recognizes that helicopter use can be advantageous in rough, inaccessible terrain, or in environmentally sensitive areas. Helicopter use can substantially reduce the area disturbed by normal construction activities. Normally, helicopter use is left up to the discretion of the construction contractor. We recommend that helicopter usage be incorporated into the mitigation plan in section 6-0 by stating helicopters will be used in environmentally sensitive areas if stipulated in the construction plan.

Reply

Your comment is noted. Item 26 in Section 6.2.3 has been added to state that the helicopters will be used in environmentally sensitive areas if stipulated in the plan of operations.

Comment 5

Western supports aligning and designing the transmission line to avoid the placement of structures in wetlands. However, it may not be possible to avoid wetlands with construction equipment in some of the wider floodplains such as the Colorado River and Williams Fork. We, therefore, recommend that item 12 of Section 6.2.3 be expanded to include the implementation of erosion control measures near wetlands. Since it is not practical to avoid the placement of structures in the floodplain of the Colorado River, we recommend that item 11 of Section 6.2.3 be expanded to state that if structures are placed in a floodplain, the structures will be designed and constructed to withstand flooding and in accordance with local floodplain regulations.

Reply

Your comment is noted. Suggested changes have been made on Items 11 and 12 in Section 6.2.3.

8.22 Mr. and Mrs. James Taussig (February 13, 1982)

Comment 1

We were very disappointed that you changed your February 4 meeting in Kremmling to 4:00 p.m. We came to town to attend at the announced time of

P. 8-5 Comment 18 Are you convinced that the section on alternatives that involve upgrading or rebuilding are adequate? (pp. 3-2 to 3-4). Yes

A number of commentors are concerned with proper discussion of how the alternatives relate to one another and how the corridors were selected. Tables 3 and 4 and Figure 2 are cited in answer to these questions and comments. Is the additional information added in these tables and figure adequate? Not really -- see Peter's comment

8-23 Comment 1 Is the need for the proposed line expressed in the document as it is in this comment? Yes

8-15 Comment 2 Some concerns about the impacts on planned developments and the indirect or secondary impacts of encouraging development in areas are expressed. The document may not have done a credible job of answering the comment regarding indirect impacts because they simply say that the line will not promote growth

8-40 Comment 5 WAPA commented on the mitigation measures planned for floodplain/wetland areas. This was the only comment concerning floodplain/wetland treatment in the DEIS.

Several individuals complained about lack of notification and insufficient time to prepare comments. REA did hold numerous meetings and there should be no complaints that the meetings were not held in sufficient number. REA did not formally extend the comment period, but did accept and respond to comments submitted a month and a half after the comment period was closed. It may be that, because there was no formal extension of the period, some individuals who wanted to respond did not because they thought their comments would not be answered.



2:00 p.m. but had to return to our ranch to feed stock. We felt that your company must not be interested in local input regarding the proposed power line.

Reply

The February 4, 1982, meeting in Kremmling was scheduled by County officials based on the convenience of Grand and Summit County representatives. REA and Tri-State have solicited input from interested citizens from the initial concept of this project.

Comment 2

It doesn't take an environmentalist, just common sense, to realize that the impact of a power line on the land and wildlife would be far more devastating on the Williams Fork side of Williams Ridge than on the Blue River side.

Reply

Section 3.5.5.1.2 of the FEIS describes the analysis of residual impacts. Table 4 summarizes these residual impacts by subcorridor. This analysis suggests that the residual impacts would be greater in the lower reach of Corridor B (Blue River side) than in the lower reach of Corridor A (Williams Fork side).

Comment 3

Maintaining a line on the Blue River side would be far more economical due to the southwestern exposure with its lack of snow and timber.

Reply

Depending on final siting, maintenance may or may not be easier in the lower reach of Corridor B.

Comment 4

From a personal standpoint as landholders in the Williams Fork Valley, we would hate to see a major power line come through to scar the land. The Blue River Valley already has more development of that nature. Why mess up one valley for the sake of an adjacent one which already has a major power lines and development?

Reply

The rationale for preferring Corridor A is found in Section 3.0.

Comment 5

It appears from map study that your line could go almost completely through government land on the Blue River side without going through much, if any, timber. It only seems reasonable that a public utility of this nature should attempt to use public ground where possible.

Reply

The land use map depicting major jurisdictions (Figure 4-2, page 79 of applicant's EA) indicates comparable amounts of public lands in lower reaches of both subcorridors. Worthy of note as well are the substantial AMAX holdings in the lower reach of Corridor A.

Vegetative variety and the screening effect of timber are among the elements included in the visual analysis. REA does not find siting such a facility in timbered areas to be negative.

8.23 Craig M. Weaver (March 4, 1982)

Comment 1

Thank you for your letter of February 25, 1982, which finally arrived in Hayden on March 2, 1982. Frankly, it does not answer my concerns, as this letter will explain. I appreciate the Summary of Meetings with Routt County and the General Press Coverage, Routt County Newspapers with Legal Notices and Advertisements. I am appalled that the Daily Press is referred to as a Routt County newspaper. This is just not true. By order of Routt County Commissioners, the Steamboat Pilot is the legal newspaper of Routt County. The Steamboat Pilot is published weekly and contains all of the legal publications pertaining to Routt County, for this reason I subscribe to this newspaper. The Daily Press is owned by Yampa Valley Newspapers, Inc., as is the Hayden Valley Press, however, the legal notice of January 18 and 25, 1982, and the advertisement of January 28, 1982, were only printed in the Daily Press a paper with very limited circulation in Routt County. Just guessing, I would say that the Hayden Valley Press has far greater circulation than the Daily Press. The legal notice and advertisement, as published allowed one copy of the DEIS in all of Routt County, at the Library, Steamboat Springs, Colorado. I learned of what was going on through an article in the Steamboat Pilot of February 4, 1982, which quoted the Routt County Planner, Dr. David Yamada, four days before the closing of comment submittal.

Reply

Your comment is acknowledged. All comments received as of April 15, 1982, have been addressed and all responses are included in this document.

Comment 2

The timing of the publication of the DEIS in the Federal Register, December 24, 1981, and the noncurrent legal notice in the Daily Press does not really give any person 45 days for DEIS review. Since the REA regulations apparently do not require public Public Hearings before or after the DEIS and only meetings with certain elected, selected or employed persons, you really do not have a Public Hearing process. Tri-State has chosen to deal with four Routt County Commissioners, eight members of the public, maximum, and four members of the Routt County Planning Department. Let me emphatically state the above group of 16 individuals do not speak for me and probably not for the other affected landowners along the route of this powerline corridor through Routt County. I would also be interested to know if any of the seven Routt County citizens had a conflict of interest, by being on an REA Board of Directors.

Reply

REA procedures do provide for public meetings prior to the publication of a DEIS. Such meetings were held.

REA procedures provide for distribution of the DEIS and acceptance of public comment letters. Extensive public comments were received.

As a related but separate issue, a sponsor or applicant for a transmission line in the State of Colorado must, pursuant to State law, apply for a Special Use Permit from affected county governments. Whether Tri-State's meetings with the Routt county government were a preliminary to the permit application or an effort to explain the project in conjunction

with the County's review of the DEIS, REA is unable to say because we were not a participant in the meeting. Without being a participant, we are unaware of whether or not any of the members of the public present were also directors of an REA financed electric system.

Comment 3

It is my understanding the the Routt County Commissioners demanded the February 2, 1982 meeting with Tri-State and the subject came up of the Yampa Valley Airport at Hayden and the effects of a new 345 kV line. The Tri-State representative stated if it was a problem, they would change the plans. Is this possibility covered in the DEIS? I did not see it.

Reply

Please see the response to comment 3 of the Routt County Board of Commissioners.

Comment 4

Is the Platte River Power Authority getting a free ride on this project?

Reply

Please see the response to comment 1 of the Western Area Power Administration.

Comment 5

How much prime farmland, i.e., crop grainland and irrigated meadow land, being taken out of production by this project?

Reply

The local SCS office of the USDA has identified no prime farmland in the corridors. REA has determined that the Corridors A and B contain about 16,500 and 17,700 acres of cropland, respectively. A minimum of 6 km (3.5 mi) of cropland would have to be crossed in either Corridor A or B. The land area displaced by the transmission line towers is estimated at 0.02 ha (0.04 a) per km, i.e., about 0.16 ha (0.4 a) cropland. Irrigated meadow land is included in the estimation of cropland.

Comment 6

There is no mention of noxious weed control with an approved list of chemical control and distribution rates, why not?

Reply

Please refer to Section 6.2.6: ROW Clearing and Maintenance. Herbicide or pesticide use would occur on a case-by-case basis and only EPA approved chemicals and application methods would be used.

Comment 7

Is Colorado-Ute financially capable of participating in this project?

Reply

Colorado-Ute is a wholesale electric utility and provides electric power to 13 retail distribution cooperatives. These distribution cooperatives serve about 111,000 metered customers and their service territories cover more than one-half of Colorado's land area. Most of its system has been financed with loans and loan guarantees provided by REA.

While REA cannot commit itself in advance to approve a particular application, REA is not aware of any reason an application from Colorado-Ute to finance a share of the proposed facility would be refused.

Comment 8

What affect on wholesale power rates will this have with regards to Colorado-Ute.

Reply

Colorado-Ute, as a 20 percent participant, may invest roughly \$6,500,000 in this proposed facility. An exaggerated cost of ownership of the facility would be 20 percent per year or \$1,300,000 per year. Let's assume the project will be placed in service in 1984 when Colorado-Ute is forecast to market on the order of 4 billion kwh annually. Dividing the \$1,300,000 annual ownership cost by the 4 billion kwh annual sales results in an increase power cost of 0.325 mills per kwh for the facility. In 1984 Colorado-Ute's cost of generating and transmitting electricity is forecast to be 45 to 50 mills per kwh. These rough calculations give one the indication that if Colorado-Ute participates in the line its power cost rates may be increased approximately 1 percent.

Comment 9

Is this 345 kV line a full power line at all times or an intermitent use power line?

Reply

The line will transfer power in meeting needs in the project area. Whenever the generating facilities at Craig and Hayden are in operation, the Hayden to Blue River line will carry power. One reason for the need of the proposed line is for reliability of service when an outage occurs on the existing Craig-Ault 345 kV line.

Comment 10

In closing, I feel the Public Hearing process on this project has been distorted, not followed and ultimately destroyed, your own exhibits confirm this. It is unfortunate a bunch of the Federal Government is a party to this action. I therefore, still request that a delay of not to exceed 120 days be granted for the approval of the DEIS so that Tri-State can gets its act together and hold well advertised Public Hearings on this project, in Routt, Grand and Summit Counties.

Reply

An essential element of the environmental review process required of the Federal government is public participation. There probably will always be differences of opinion whether this public participation is best accomplished by public meetings, public hearings, public comment letters, etc. There have been public meetings conducted and, as one can see from this section of the EIS, numerous public comments regarding the environmental aspects of the proposed project.

This environmental process does not substitute for the requirement that the applicants obtain a Special Use Permit from Routt, Grand and Summit Counties as provided by State law. REA is not knowledgeable whether or not this permitting process entails public hearings. Surely it allows for further public involvement in the discussion of the project.

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- Western Area Power Administration, A Negative Determination of Environmental Impact on the Hayden Substation Additions, March 24, 1978 (Western Area Power Administration letter dated March 10, 1982, Section 10, Appendix 4).
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Western Systems Coordinating Council Environmental Committee, 1971,
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Yampa Project Operating Study, 1979; 1980 Supplement; Colorado-Ute
January 14, 1982 Supplement

10.0 APPENDICES

- 1 - ENVIRONMENTAL ANALYSIS FOR HAYDEN TO BLUE RIVER TRANSMISSION
LINE PROJECT, VOLUME 1
- 2 - ENVIRONMENTAL ANALYSIS, VOLUME 11, APPENDIX VOLUME
- 3 - PROJECT MEETINGS AND CORRESPONDENCE
- 4 - COMMENT LETTERS FROM FEDERAL, STATE AND LOCAL AGENCIES
AND OTHER INTERESTED PARTIES
- 5 - SUMMARY OF SPECIFIC EFFECTS OF SITING THE HAYDEN TO BLUE RIVER
TRANSMISSION LINE IN OR ADJACENT TO THE EXISTING WESTERN
138/115 kV ROW



APPENDIX 1

ENVIRONMENTAL ANALYSIS
FOR
HAYDEN TO BLUE RIVER TRANSMISSION LINE

(ATTACHED)



APPENDIX 2
ENVIRONMENTAL ANALYSIS
(ATTACHED)



APPENDIX 3

PROJECT MEETINGS AND CORRESPONDENCE



HAYDEN-BLUE RIVER (MILL TAP)
STUDY AREA MEETING

MAY 3, 1978

Bill Clark	Colorado Division of Wildlife; Grand Junction
Darryl Luce	Colorado Division of Wildlife; Breckenridge
Chuck Cesar	Bureau of Land Management; Kremmling
Dick Moorhead	Bureau of Land Management; Craig
Chuck Morganstean	Bureau of Land Management; Kremmling
Adrian Neisius	Bureau of Land Management; Kremmling
Gary Weiser	Bureau of Land Management; Craig
Berwyn Brown	U.S. Forest Service; Kremmling
Dave Davies	U.S. Forest Service; Denver
Brad Morrison	U.S. Forest Service; Kremmling
Richard Shafer	U.S. Forest Service; Dillon
John Thompson	U.S. Forest Service; Yampa
Leroy Scott	Grand County Planning Office; Hot Sulphur Springs.
Diane Blake	Routt County Planning Office; Steamboat Springs
Brian Hyde	Summit County Planning Office; Breckenridge
George Barth	Tri-State
Lucy Bowen	Tri-State
Jerry Hamm	Tri-State
Priscilla Lukens	Tri-State
Christine Miller	Tri-State
Jack Wolfe	Tri-State

HAYDEN-BLUE RIVER (MILL TAP)
INFORMATION MEETING

November 15, 1978
Kremmling, Colorado

Attendance Roster

Charley Beal	Tri-State - Thornton
Reed Ashton	Western Area Power Administration - Salt Lake City, Utah
Ray Keith	Colorado-Ute - Montrose
James Selby	Tri-State - Thornton
Larry Ashbrook	Tri-State - Thornton
Jack Wolfe	Tri-State - Thornton
Phillip Porter	Platte River Power Authority - Fort Collins
Larry J. Stark	Public Service Co. of Colorado - Denver
Jerry Hamm	Tri-State - Thornton
Lucy Bowen	Tri-State - Thornton
Leo A. De Guire	Western Area Power Administration - Montrose
Dave Davies	U.S. Forest Service - Denver
Eli Yakich, Jr.	Public Service Co. of Colorado - Denver
Dick Shafer	U.S. Forest Service - Dillon
Milton Rupp	Bureau of Land Management - Kremmling
Dick Moorhead	Bureau of Land Management - Craig
Ade Neisius	Bureau of Land Management - Kremmling
Roger Zortman	Bureau of Land Management - Kremmling
Marvin Pearson	Bureau of Land Management - Craig
George Barth	Tri-State - Thornton
Roger A. Smith	Bureau of Land Management - Craig
Steve Shuck	Bureau of Land Management - Craig

INFORMATION MEETING - Attendance Roster (con't) Nov. 15, 1978

Martin Rehm	Colorado-Ute - Montrose
Jerry A. Walker	Colorado-Ute - Montrose
Charles Pottey	Tri-State - Thornton
Leopoldo Barrios	Tri-State - Thornton
John Pope	Tri-State - Thornton
Bob Risch	Tri-State - Thornton
Jim Overcamp	Tri-State - Thornton
Chris Miller	Tri-State - Thornton
Tom O'Brien	Western Area Power Administration - Denver
Howard Moody	Grand County Planning - Hot Sulphur Springs
Kent Crowder	Jackson County Administrator - Walden
Ben Chance	Mountain Parks Electric, Inc. - Granby
Herbert A. Ritschard	Grand Co. Commission - Hot Sulphur Springs
Lee W. Jensen	U.S. Forest Service - Yampa
Eric L. Jensen	U.S. Forest Service - Kremmling
Lee Rottman	Colorado Division of Wildlife - Kremmling
Tim McLeod	Mountain Parks Electric - Granby
Sam Sampson	Mountain Parks Electric - Granby
Roy Jost	Summit Co. Planning - Breckenridge
Andrew Miller	Winter Park Manifest - Winter Park
Alan Best	Middle Park Times - Kremmling
John McMoran	Comarc Design Systems - Denver

HAYDEN-BLUE RIVER PROJECT

GENERAL SCOPING INFORMATION MEETINGS
AGENCIES AND COUNTIES

1978-1979

AGENCY

TOPICS DISCUSSED

Mr. Richard Shafer
Forestry Technician
U.S. Forest Service
Dillon, Colorado

USFS environmental studies for transmission line routing; principles of landscape absorption capability; selective clearing; minimal construction impact; field inspection of existing facilities in area.

Mr. Donald Shrupp
Colorado Division of Wildlife
Denver, Colorado

Computerized wildlife habitat maps available from the Division of Wildlife for the project study area.

Ms. Diane Blake
County Planner
Routt County
Steamboat Springs, Colorado

Major concerns regarding transmission line routing in county; land use; natural hazard areas; airport expansion; residential development and proposed recreation sites; requirements for Special Use Permit in county.

Mr. Berwyn Brown
U.S. Forest Service
Middle Park District
Kremmling, Colorado

Existing and potential timber harvest on USFS lands; RARE II areas; need for project participants to communicate a long-range plan for north-western Colorado region.

Mr. Lee Jenson
District Ranger
U.S. Forest Service
Yampa, Colorado

RARE II problem areas; visitor-use data for project study; hiking trails in area; existing utility corridor utilization.

Mr. Howard Moody
Mr. Steve Amsbaugh
Grand County Planning & Development
Hot Sulphur Springs, Colorado

Building activity in western Grand County; wildlife issues; proposed reservoir site; proposed airport sites; requirements for Special Use Permit in county.

AGENCY

TOPICS DISCUSSED

Bureau of Land Management
Regional Office
Craig, Colorado

Project alternatives; upgrading existing lines; numerous utility corridors in area; voltage alternatives for proposed line (230 kV vs. 345 kV); how public meetings should proceed for the project.

Mr. Kent Crowder
County Administrator
Jackson County
Walden, Colorado

Requirements for permits in county; concerns and involvement of citizens in land use planning in county; use of Comarc system for land use planning.

Mr. Roy Jost
County Planner
Summit County
Breckenridge, Colorado

Regulations for permits to construct in county; concerns and questions regarding the construction of transmission line facilities.

Mr. Lee Rottman
Conservation Officer
Colorado Division of Wildlife
Kremmling, Colorado

Wildlife issues; potential impacts; mitigation techniques; positive effects of transmission line construction to wildlife habitat.

Mr. John Hess
Mr. David Yamada
County Planners
Routt County
Steamboat Springs, Colorado

Proposed developments in residential areas; reservoirs; strip mining activities in county; potential conflicts in county with right-of-way acquisition for transmission lines; recreation sites.

Mr. Al Whitaker
Environmental Biologist
Colorado Division of Wildlife
Denver, Colorado

Criteria for and assistance with developing a species list for inclusion in the project data base.

Mr. Herb Ritschard
County Commissioner
Mr. Howard Moody
County Planner
Grand County
Hot Sulphur Springs, Colorado

Reclamation techniques; landowner concerns in county; existing land use; general discussion of need for transmission line.

AGENCY

TOPICS DISCUSSED

Mr. Doug Boggs
Mr. Sumner Hockett
Mr. Bob McKuen
Routt County Commissioners
Steamboat Springs, Colorado

Clarification of some questions the Commissioners had regarding the proposed study; need and justification for the proposed project; study methodology; plans for public meetings and workshops.

Mr. David Davies
Utility Program Manager
U.S. Forest Service
Denver, Colorado

Concerns of USFS; agency contacts for specific expertise; logging areas; wildlife issues; visual impacts; cultural resources.

Mr. William Bottomly
Landscape Architect
Bureau of Land Management
Denver, Colorado

BLM Visual Resource Inventory being done in portions of project study area; general parameters of a visual study; general information regarding proposed study methodology.

Mr. Herb Mittman
Landscape Architect
U.S. Forest Service
Denver, Colorado

USFS View-It computer program for visual studies; levels of study needed for corridor stage vs. centerline stage; general concepts of visual study.

Mr. Don Patterson
Landscape Architect
U.S. Forest Service
Fort Collins, Colorado

Visual Quality Objectives; Visual Absorption Capability; parameters for visual studies done by USFS for Arapahoe-Roosevelt National Forest.

Mr. Eugene Hind
Soil Scientist
U.S. Forest Service
Denver, Colorado

Criteria for soil sensitivity evaluation; sources for these criteria.

Mr. Jim Heinle
Landscape Architect
U.S. Forest Service
Steamboat Springs, Colorado

Elements of visual study being conducted in Routt National Forest area.

AGENCY

TOPICS DISCUSSED

Mr. Chuck Cesar
Wildlife Biologist
Bureau of Land Management
Kremmling, Colorado

Wildlife sensitivity evaluation criteria; general study concerns.

Mr. Dick Moorhead
Realty Specialist
Bureau of Land Management
Craig, Colorado

General project parameters and potential assistance from BLM.

Mr. Darrell Schroeder
Soil Conservation Service
Craig, Colorado

Interpretations of soil associations found in study area; general soil information.

Mr. Stan Broome
County Manager
Grand County
Hot Sulphur Springs, Colorado

Developments in county bearing on proposed project; water development activities; general discussion of project, long-range plans and existing transmission lines in county.

Mr. Bob Wilmont
Soil Scientist
U.S. Forest Service
Fort Collins, Colorado

Soil interpretations; effects of roads and need for revegetation of same on USFS lands; slope; water runoff.

Ms. Karen Countryman
Town Planner
Silverthorne, Colorado

Review of scenic route proposals for Route 9 through Summit County; conflicts with scenic overlooks and substation sites under consideration.

Mr. Harris Sherman
Executive Director
Colorado Division of Natural Resources
Denver, Colorado

Coordination with various state agencies for input regarding the proposed project; agency contacts.

Mr. Richard Enriquez
Mr. Gary Schmitt
U.S. Forest Service
Steamboat Springs, Colorado

Source data for soil interpretations and wildlife components of project data base.

HAYDEN-BLUE RIVER PROJECT
AGENCY CONTACTS: 1980-1981

FEDERAL

BUREAU OF LAND MANAGEMENT

Bill Daniels
Sally Collins
Jim Dean
Environmental Planning and
Coordination
BLM State Office
Denver, Colorado

Andy Senti
BLM State Office
Denver, Colorado

FEDERAL COMMUNICATIONS COMMISSION

John Phillips
FCC State Office
Denver, Colorado

U.S. FOREST SERVICE

Roger Corner
District Ranger
Arapaho National Forest

Dick Shafer
Forestry Technician
Arapaho National Forest

Eric Jensen
Ranger
Arapaho National Forest

Joel Strong
Ranger
Yampa District

Jean Misenbach
RARE II
Regional Office
Lakewood, Colorado

STATE OF COLORADO

COLORADO DEPARTMENT OF NATURAL RESOURCES

Thomas E. Bretz
Director, Mineral Department
Board of Land Commissioners
Denver, Colorado

William J. Killip, II
Engineering Technician
Board of Land Commissioners
Denver, Colorado

James C. Callahan
Real Estate
Division of Wildlife
Denver, Colorado

Rick Mills
Reclamation Specialist
Mined Land Reclamation
Denver, Colorado

COLORADO STATE HIGHWAY DEPARTMENT

Gerald Hart
Denver, Colorado

LOCAL

GRAND COUNTY: HOT SULPHUR SPRINGS, COLORADO

Howard Moody
Director of Planning

Grand County Board of County
Commissioners

Paul Grant
Office of Planning and Development

ROUTT COUNTY: STEAMBOAT SPRINGS, COLORADO

John Hess
County Planning Office

Adrien Yamada
County Planning Office

Routt County Board of
County Commissioners

SUMMIT COUNTY: BRECKENRIDGE, COLORADO

Roy Jost
County Planning Office

Rick Bellis
County Planning Office

Summit County Board of
County Commissioners

TOWNS

Karen Countryman
Town Planner
Silverthorne, Colorado

William Wright
Airport Manager
Hayden, Colorado

PRIVATE

Bob Moreland
Vidler Water Company
Boulder, Colorado

Paul Van Sickle
Oak Creek Power Company
DBA Van Sickle Associates
Denver, Colorado





United States
Department of
Agriculture

Soil
Conservation
Service

P.O. Box 17107, Denver, CO 80217

November 7, 1980

Linda Larson
Technical Writer
Tri-State Generation and
Transmission Association, Inc.
12076 Grant Street
Denver, CO 80233

Dear Ms. Larson:

We have examined the maps showing the proposed routes (preferred and alternate) for the transmission line - Hayden-Blue River, Colorado.

No prime farmland has been identified along either route or within the corridor(s) shown.

Criteria for identification of prime rangeland or prime forestland has not been developed.

We are returning the maps you sent to us.

Sincerely,

Sheldon G. Boone
State Conservationist

Enclosures



The Soil Conservation Service
is an agency of the
Department of Agriculture

SCS-AS-1
10-79





United States Department of the Interior

FISH AND WILDLIFE SERVICE
AREA OFFICE COLORADO-UTAH
1311 FEDERAL BUILDING
125 SOUTH STATE STREET
SALT LAKE CITY, UTAH 84138

IN REPLY REFER TO

October 29, 1980

Frank W. Bennett
Director
Power Supply Division
Rural Electrification Administration
Washington, D. C. 20250

Dear Mr. Bennett:

This is in response to your September 12, 1980 letter in which you requested our review of your biological assessment on the Colorado 47 Tri-State Hayden-Blue River 345 kv transmission line project. In that letter, you stated the proposed project would have no affect on the Federally endangered bald eagle (Haliaeetus leucocephalus) and the black-footed ferret (Mustela nigripes). Fish and Wildlife Service (FWS) concurrence was requested.

Your biological assessment states that white-tailed prairie dog colonies have been located within your designated study area. Black-footed ferrets are normally associated with prairie dogs. Although the black-footed ferret has not been sighted within your study area in recent years, there is the possibility it could be found within these prairie dog colonies.

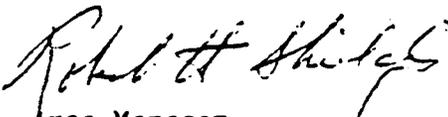
You also stated in your biological assessment that the occurrence of white-tailed prairie dogs within the study area is confined to areas outside of the transmission line corridors. For this reason, you concluded that construction of the transmission line within either the preferred or the first alternative corridor will not affect the black-footed ferret or its habitat. FWS concurs with this conclusion of no affect provided the following procedures are followed.

If during the course of construction of the transmission line a white-tailed prairie dog colony is found within the corridor, FWS requests that the colony be surveyed for black-footed ferrets using the recommended black-footed ferret survey procedures. Attached is a draft of these recommended survey procedures. We will be distributing the final survey procedures in the near future. You should contact FWS for the final guidelines before proceeding with any black-footed ferret surveys. If a black-footed ferret is found, Rural Electrification Administration (REA) must reinitiated Section 7 consultation immediately.

Bald eagles are known to winter within the study area, and two winter roosts are found within the first alternative corridor. As stated in your biological assessment there are possible adverse affects to the bald eagle as a result of the construction of the transmission line, such as collisions or increased human disturbance. These affects will be avoided by the implementation of the protective measures that you have included as part of your project. For this reason, FWS concurs with your conclusion of no affect to the bald eagle.

If project plans or conditions change, or if new endangered or threatened species are listed, consultation should be reinitiated. Thank you for your cooperation in protecting endangered species.

Sincerely,


Area Manager

Attachment



DEPARTMENT OF THE ARMY
SACRAMENTO DISTRICT, CORPS OF ENGINEERS
650 CAPITOL MALL
SACRAMENTO, CALIFORNIA 95814

REPLY TO
ATTENTION OF

SPKED-W

10 March 1980

Mr. William E. Davis, Director
Western Area - Electric
USDA - REA - South Building
Washington, D.C. 20250

Dear Mr. Davis:

This is in reply to your letter of 5 February 1980 concerning the proposed construction of a 345 kV transmission line by Tri-State Generation and Transmission Association (Tri-State) of Thornton, Colorado, that would connect the Hayden Generating Station, Windy Gap Substation, and the proposed Blue River Substation.

In recognition of your agency being designated as the lead agency for preparation of the Environmental Impact Statement, we have outlined our agency's areas of concern regarding the proposed project.

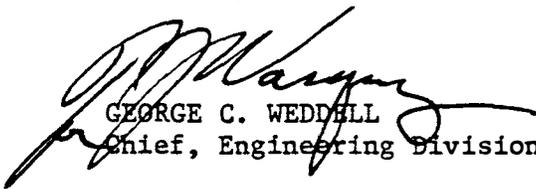
The proposed project is not in conflict with existing or proposed flood control, navigation, or other programs within the jurisdiction of the US Army Corps of Engineers.

In the interest of flood control, however, we would suggest that facilities be located so as to not be subject to flood damage nor in anyway impede streamflow.

In connection with streambed and wetland crossings, a Department of the Army permit under Section 404 of the Clean Water Act (33 USC 1344) may be required for placement of fill materials. In this regard we suggest that contact be maintained with our Field Office at Grand Junction to insure that appropriate consideration and procedure is followed in compliance with our regulatory responsibility. The address is as follows: Regulatory Unit No. 4; Crossroads Energy Building; Suite 111; 2784 Crossroads Blvd.; Grand Junction, Colorado 81501.

If you have any questions, you may also contact the Grand Junction Regulatory Unit by calling 322-0333 (FTS).

Sincerely,


GEORGE C. WEDDELL
Chief, Engineering Division



United States Department of the Interior

BUREAU OF MINES

BUILDING 20, DENVER FEDERAL CENTER
DENVER, COLORADO 80225

November 29, 1979

William E. Davis, Acting Director
Western Area - Electric, Room 1268 S
Rural Electrification Administration
U.S. Department of Agriculture
Washington, D. C. 20250

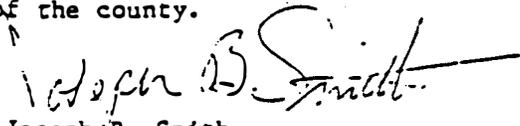
Dear Mr. Davis:

At the request of the Director, Office of Environmental Project Review, U.S. Department of the Interior, personnel of this office have reviewed the Macro Analysis for the Hayden-Blue River Transmission Line Project, Routt, Grand, and Summit Counties, Colorado (ER 79/1071).

The subject document prepared by Tri-State Generation and Transmission Associates, Inc., one of four utilities jointly proposing this project, analyzes the need for additional electrical power transmission facilities in northwestern Colorado and the potential impacts of alternative routings for a proposed 85- to 90-mile-long transmission line from Hayden to the Blue River between Kremmling and Dillon.

Construction of the proposed transmission line is not likely to conflict with future mineral development of the area. However, the possibility of of exploitable mineral resources underlying the powerline right-of-way should be investigated and the data included in route considerations before a final route selection is made. The only reference found to geology in the document is on Figure 3, Corridor Selection Data Structure, which links geology only to slope stability and scenic quality.

Routt County, through which one-half of the proposed line would pass, is Colorado's largest producer of coal and in addition produces sand and gravel, petroleum, stone, and natural gas. The proposed routings pass through known coal producing areas of the county.


Joseph B. Smith

cc: Director, Office of Environmental Project
Review, Department of Interior



Project No. TSG237



C O T R S

see Your Purchase Order 83840

COLORADO
HISTORICAL
SOCIETY

The Colorado Heritage Center 1300 Broadway Denver, Colorado 80203

Date Received 01 July 1980

Date Responded 28 July 1980

At your request this office has conducted a search of the Colorado Archaeological Site Inventory and the Colorado Inventory of Historic Sites, as well as nominations pending or on the National Register of Historic Places.

The result of this file search is indicated below:

- () There are no known () Archaeological and/or () Historical/Architectural resources in the impact area of the proposed undertaking.
- * (x) Information regarding previously documented resources in these areas is attached. These resources have not been evaluated for inclusion in the National Register. However, they must be considered to be Eligible for inclusion in the National Register until a formal determination has been completed.
- * () Information regarding cultural resources pending nomination to or on the National Register of Historic Places in the proposed project area is attached.

Our files are incomplete in this area as the vast majority of Colorado has not been inventoried. There is always the possibility that as yet unidentified Cultural Resources exist within the proposed impact area.

Therefore, the federal agency is required to conduct a professional survey to Identify any Eligible Cultural Resources in the proposed project area.

We anticipate consultation with this office regarding the Effect of the proposed project on any Eligible resource in accordance with the Advisory Council Procedures for the Preservation and Protection of Historic and Cultural Resources (36 CFR 800).

Please provide this office with the results of the survey for our review of professional adequacy and compliance.

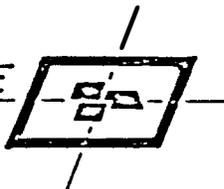
Arthur C. Townsend
State Historic Preservation Officer

Howard J. Pomerantz
Acting State Archaeologist

*Information regarding significant archaeological resources is excluded from the Freedom of Information Act. Therefore, legal locations of these resources must not be included for public distribution.

ROUTE 1 FILE 4
2 5
3 6

TRI-STATE
GENERATION & TRANSMISSION
ASSOCIATION, INCORPORATED
Serving 25 Member Systems
in Northeast Colorado,
Wyoming and Southwest Nebraska



DATE 10/7/80

FILE NO. H/BR: SHPO

TELEPHONE CALL RECORD

PROJECT: HAYDEN-BLUE RIVER 345 kV TRANSMISSION LINE PROJECT

<u>OUTGOING CALL</u>	<u>INCOMING CALL</u>
PARTY CALLING <u>HOWARD POMERANTZ</u>	CALLING PARTY _____
COMPANY <u>ACTING STATE ARCHEOLOGIST</u>	COMPANY _____
CITY <u>DENVER</u>	CITY _____
PHONE NO. <u>(303) 839-3394</u>	PHONE NO. _____

I called Mr. Pomerantz at the SHPO's office to clarify the procedures and information regarding cultural sites for the Hayden-Blue River project. He explained these as follows:

1. We may not identify any of the sites in the project study area (found through the file search) by legal description or any other precise description. We cannot publish range, township and section because the sites have not been examined for eligibility. These site locations are excluded from the Freedom of Information Act, and cannot be published in any public document such as the EA (or EIS). We can describe them as to the number of sites in or bordering the alternative corridors, and describe potential mitigative measures, but cannot give specific references as to where sites are actually located.
2. The letter (form letter) which Mr. Pomerantz sent is the SHPO's official response and recommends cultural survey along entire centerline, when established.
3. The file search we had done is complete; unless further sites are discovered in the interim, we have a record of all sites in the study area. These sites have not been determined to be eligible for the National Register, so must be regarded as potentially eligible until cultural resource survey is done.

L.H. Bowen

APPENDIX - 4

COMMENT LETTERS FROM FEDERAL, STATE AND LOCAL AGENCIES
AND OTHER INTERESTED PARTIES





United States Department of the Interior

OFFICE OF THE SECRETARY
Building 67, Room 688
Denver Federal Center
Denver, Colorado 80225

IN REPLY
REFER TO: ER-81-2626

FEB 02 1982

Mr. Franklin W. Bennett, Director
Power Supply Division
Rural Electrification Administration
Washington, D.C. 20250

Dear Mr. Bennett:

This is in response to your request for the Department of the Interior's review of the draft environmental impact statement (DEIS) for the proposed Hayden to Blue River 345 kV Transmission Line project. Enclosed with this letter (enclosure 1) are the specific comments and suggestions for the DEIS.

GENERAL COMMENTS

Alternatives

We concur with you that the area contained within the two corridors analyzed (A and B) represents the most logical location for the proposed transmission line. However, because the impacts of each corridor are analyzed for the whole corridor, rather than for "reaches" or "subcorridors," it is not possible to derive from the DEIS the impacts of a combination of the two corridors. Table 3 (page 3-7) provides some of this information, but requires further explanation. We realize that the applicant's environmental analysis analyzes the impacts by segments, and we feel they have done so adequately. The DEIS must summarize this analysis, thus providing the decisionmaker with the option of selecting portions of the two corridors. As it is presently written, the decisionmaker and the public do not have the comparative analysis necessary to do this.

We recommend that table 3 be further clarified in the FEIS; specifically, we suggest that a map showing the segments and reaches accompany the table, a brief explanation of the analytical process that resulted in the table be provided, and the applicant's EA be specifically referenced and summarized.

The discussion of transmission line alternatives (3.2.1 - 3.2.3) needs to be elaborated upon. Advantages and disadvantages, including environmental impacts and costs, should clearly explain why these are not feasible alternatives. More specific comments on this point are included in enclosure 1.

Finally, the DEIS does not address the impacts of introducing a major transmission facility into an area otherwise without one (Alternative A).

Since Alternative B does not contain existing facilities, the comparison of alternatives should include a discussion of this.

Public Lands

In order for the Bureau of Land Management (BLM) to issue required rights-of-way (ROW) and other permits associated with the proposal, the actual location of the centerline for the proposed ROW and ancillary facilities (including temporary use areas) will have to be determined. These actual locations must be submitted to the BLM in the form of a plan of operations and maintenance prior to the issuance of the right-of-way grant and other associated permits. This must be clarified in the FEIS. The factors to be considered in the plan of operations include but are not limited to the right-of-way width, access, construction techniques, season of construction, clearing of vegetation, wildlife and cultural resource restrictions, and rehabilitation. The plan is anticipated to mitigate most impacts which otherwise might occur on BLM lands. Our suggestion is that this be incorporated into the monitoring and mitigation chapter.

Fish and Wildlife Resources

The Fish and Wildlife Service finds that the impacts of the project on fish and wildlife resources are adequately described in the draft statement. They agree that Corridor A appears to be the least damaging alternative to fish and wildlife.

Park, Recreation, and Cultural Resources

You should be aware that Corridor B (Segment 18) crosses the upper terminus of a segment of the Colorado River that has been identified in the Nationwide Rivers Inventory as having potential for inclusion in the National Wild and Scenic Rivers System. The segment extends from the Blue River to State Bridge (23 miles) and has been reported to have excellent scenic, recreational, geologic, and fish values. If Corridor B or portions thereof are selected, we recommend that the mitigation measures indicated on pages 200-206 of the environmental analysis (Appendix 1) be implemented to reduce adverse visual impacts.

Four areas located within or adjacent to the study corridors have been identified as having the potential for designation as National Natural Landmarks. Descriptions of these areas are enclosed (enclosure 2), as well as information on the process by which the areas were identified. The Krenmling Cretaceous Ammonite Site and Muddy Slide have both been highly recommended for landmark designation. Wolford Mountain and the Gore Range both appear to be nationally significant although further information is needed. We urge that the route selected avoid these areas and that the transmission line be designed to minimize ecologic and geologic impacts where avoidance is not possible.

Mineral Resources

The DEIS states that four active coal mines and an active molybdenum mine tailings area occur in Corridor A, and there are coal leases within

Corridor B. Potential land use conflicts have been discussed with the mining companies and no serious conflicts were identified. Other mineral resources found in the region include petroleum, natural gas, and sand and gravel. There does not appear to be any conflict with these resources.

Air Quality

Fugitive dust impacts will be temporary, especially if revegetation occurs. State of Colorado, Colorado Department of Health, Air Pollution Control Division (303/320-4180) should be contacted regarding fugitive dust regulations at the plan of operations stage. No climatic data was presented. It should be emphasized that success of revegetation effort is dependent on proper plant selection for climatic conditions.

Other

The proposed line will not impact any existing or proposed Bureau of Reclamation project, nor does it affect, either directly or indirectly, any Indian lands for which the Secretary of the Interior has a trust responsibility.

Specific, Section-by-Section Comments

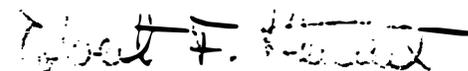
Enclosed are section-by-section comments incorporated by this reference into our comments on the DEIS.

SUMMARY COMMENTS

The Department of the Interior, through the BLM, must issue rights-of-way and other permits for the crossing of public lands. The final EIS should (1) present a comparative analysis of subcorridors or "reaches" so that the impacts of a combinations of corridors A and B are clear, and (2) incorporate the factors to be included in the plan of operations for the transmission line.

We believe that generally the DEIS is well-prepared, concise, and will, with the aforementioned and following changes, be very useful for management purposes.

Sincerely yours,



Robert F. Stewart
Regional Environmental Officer

Enclosures

SPECIFIC COMMENTS

Page 1-2, paragraph 5: Change wording to ". . . reestablish groundwater" rather than "growth."

Page 1-5, paragraph 1: Change wording to ". . . endangered plant or animal species."

Page 1-5, paragraph 3: Address the visual impacts along the Blue River, as well as in the William's Fork.

Pages 2-1 to 2-3: You should reference the studies indicating the inadequacies of the present system.

Page 2-4, table 1: Additional discussion on why the power demand is expected to almost double between 1982 and 1983 would add credibility to the projection.

Page 3-2 to 3-4: Only one of the upgrading or rebuilding alternatives mentions use of the existing rights-of-way. This is true for all of the alternatives. This section should be expanded to include more complete rationale for the infeasibility of the upgrading and double-circuiting options. As they stand, they do not seem unreasonable alternatives. Table 2 on page 3-4 contains six alternatives, not the four explained on the previous pages. Some consistency is required for clarity.

Page 3-4 to 3-9, section 3.3: As explained in the general comments, table 3 must be elaborated. A map showing the segments and reaches is essential, as is a brief explanation of how the ratings were derived. Some summarizing and referencing of the applicant's EA would be appropriate. Complete reliance on the applicant's EA, without referencing and summarizing, would leave the EIS devoid of the analysis of subcorridors or reaches. This, in turn, does not provide the decisionmaker with the option of selecting portions of both corridors at the decision stage.

Page 3-11, last paragraph: It is difficult to believe that all potential sites for the Middle Park substation are already disturbed. Please clarify this point.

Page 4-3, paragraph 5: "Sloughs" should be sloughs.

Page 4-5, paragraph 3: Add Muddy Creek.

Page 5-2, paragraph 3: Change wording from "soil erosion" to "increased sediment yield."

Page 5-4, last paragraph: This paragraph should be revised as follows: Three federally listed endangered species of fish occur in the Colorado River. The current uppermost distributional range of the Colorado squawfish (Plychocheilus lucius), humpback chub (Gila cypha), and the bonytail chub (Gila elegans) is more The Colorado squawfish is also found in the Yampa River downstream of Craig, Colorado. The Colorado River cutthroat trout, listed as endangered by the State of Colorado occurs

Page 5-5, paragraph 3: In the preliminary draft, a great blue heron rookery was identified here and is now deleted. Where is this discussed?

Page 5-7, paragraph 1: The statement "these lands are not used for any conflicting purpose" should be clarified. There are conflicting demands for the use of public lands in the project area, some of which may be mutually exclusive. One of the purposes of the EIS is to analyze the impacts of this project on existing and potential land uses.

Page 5-7, paragraph 4: Do you mean "use of the limited local labor force" or "the limited use of the local labor force"?

Page 5-13, table 6: Wildlife critical areas. It is extremely doubtful that there are any wintering areas for greater sandhill cranes in either corridor.

Page 5-14, section 5.23: Possible impacts on cultural and visual resources need to be considered.

Page 6-1, section 6.0: This section should include measures to prevent or mitigate the effects of spills of fuels, lubricants, or chemicals on ground water.

See also our general comments about adding to this section the requirements of the plan of operations for BLM's ROW grants.

Page 6-1, paragraph 3: BLM will also provide compliance officers for BLM lands.

Page 7-2: BLM no longer issues Special Use Permits; only Temporary Use Permits. Preference Right Leases are not going to be issued as part of this project and should also be deleted.



United States
Department of
Agriculture

Forest
Service

Rocky Mountain
Region

11177 W. 8th Ave.
P.O. Box 25127
Lakewood, CO 80225

Reply to: 2720
1950

Date: FEB 2 1982

Frank W. Bennett, Director
Power Supply Division
Rural Electrification Administration
Washington, D. C. 20250

Dear Mr. Bennett:

We have reviewed the Draft Environmental Impact Statement (DEIS) for the proposed Hayden-Blue River 345 kV Transmission Line. Our detailed comments to the DEIS are enclosed.

We have one general comment; in preparing your Final EIS, the reason for preferring the Williams Fork (segments 20, 23 and 24) over the Lower Blue River (segments 18, 21, 22, and 24) should be very clear and adequately supported.

We want to thank you for the cooperation of REA and Tri-State Generation and Transmission Association, Inc. in this project.

Sincerely,


S. H. HANKS
Deputy Regional Forester, Resources

Enclosure



table and the segment map the corridor selection process becomes clear. We strongly advise REA to place the revised table, the corridor segment map and Tri-State's letter in the final EIS so the process can be understood.

Page 3-6 - 2nd paragraph, last sentence

This describes the sub-corridors and segments of Corridor B. Corridor B consists of sub-corridor 4, segments 1, 6, 9, 11, and 12S; sub-corridor 22, segments 14, 15, and 17N; and, sub-corridor 32, segments 18, 21, 22, and 24. How do you get from Segment 12S, in sub-corridor 4 to segment 14, in sub-corridor 22? Also, how do you get from segment 17N in sub-corridor 22 to segment 18 in sub-corridor 32?

It appears that sub-corridor 24, with segments 13, 14, 15 and 17N should have been selected along with segment 17S to connect with segment 18 in sub-corridor 32.

Page 147 of the EA footnote states: "To allow the reaches within Corridor B to be connected, minor areas within segments 13 and 17S of the middle reach of Corridor A will be crossed." How does this variance fit with the overall analysis of the corridor selection process without segments 13 and 17S?

Page 3-3

A discussion should be made of the possibility to remove the two existing electrical transmission lines in the Blue River Valley and replacing them with the proposed or with a double circuit or larger transmission line.

Page 4.4

Grizzly Bear do not inhabit the area.

Page 5.1 Section 5.1 - Geology and Seismology and page 147 of the EA.

Were the areas described in the DEIS and the EA removed before the ratings made for each segment? If not, what effect did they have on selecting the preferred corridor?

Page 3-10 - Table 4 - Characteristics of Transmission Line Structures.

The cost of aluminum structures appears low and on page 51 of the EA states that aluminum structures (because of needing to dull them) would add significantly to the total project cost. Table 4 shows that aluminum lattice structures cost less per mile than self-supporting steel lattice. The table should reflect the cost of dulling the aluminum. If the aluminum is not dulled, it is not acceptable on National Forest lands.

Page 5-7 - Section 5.13 - Public Domain Lands

Last sentence states: "REA considers that the impact on these lands would not be significant, since these lands are not used for any conflicting purpose." We do not understand that statement. Impact on BLM lands from the transmission line could be high because of less terrain relief and limited trees to screen the transmission line.

Section 5.14 - Recreational Resources

There is recreational use around Williams Fork Reservoir and Ute Pass which should be a part of the consideration in the analysis.

Page 5-13

Greater Sand Hill Crane do not winter in Colorado, but in Mexico and New Mexico. Therefore, reference to impacts on this specie's winter range are incorrect.

Page 6-4

Mitigation 20

The decision of closing the construction road will be made by the Forest Service on National Forest System lands, not by Tri-State Generation and Transmission.

Mitigation 22

Colorado State Law speed limit is 20 m.p.h. on narrow winding mountain highways and 40 m.p.h. on open mountain highways. The mitigation should reflect the State Law.

Mitigation 25

It is not clear what is meant by ". . .reduce problems such as weed growth around the base of the transmission towers." Normal practice is to revegetate the disturbed areas around the towers with grass, forbs or shrubs, depending on the vegetative type in that area.

Page 6-1

There does not seem to be any specific consideration on mitigating or monitoring of water quality.

Page 7-2

Under Federal authorizing actions, add to the Department of Agriculture the following:

Decision on the project Record of Decision 40 CFR 1505.2

Change FSM 2712 to 36 CFR 251.54(8).

Remove the following:

"Preference Right Lease Areas"

"Issue Lease (including subordination agreements)"

"Mineral Leasing Act of 1920 (30 U.S.C. 201-6)"

Preference Right Leasing deals with phosphate, sodium, potassium, sulphur or hard rock minerals on acquired lands, if a discovery is made under a prospecting permit. We do not see where this is an action that is necessary to implement the project. In fact, the Forest Service does not issue preference right leases, the BLM has that authority. Also, why would construction of a transmission line be involved in preference right leasing.



DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION EIGHT
555 ZANG STREET, BOX 25246
DENVER, COLORADO 80225

January 22, 1982

IN REPLY REFER TO
HEP-08

Mr. Frank W. Bennett, Director
Power Supply Division
Rural Electrification Administration
Washington, D. C. 20250

Dear Mr. Bennett:

Thank you for the opportunity to review the Draft Environmental Impact Statement (DEIS) on the proposed Hayden to Blue River 345 KV Transmission Line Project (your reference number USDA-REA-EIS(ADM):82-2-D). We find that the DEIS adequately addresses our concerns.

We note that you have coordinated this document with the Colorado State Highway Department. We would encourage and request that you continue a close working relationship with them as this project develops and is constructed, particularly with respect to the proposed Colorado State Route 9 (scenic and recreational highway) mentioned on page 5-14 under section 5-22.

Sincerely yours,

A handwritten signature in cursive script that reads 'Fred Hempel'.

Fred Hempel
Director, Environmental Programs



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
1860 LINCOLN STREET 16 P 1: 47
DENVER, COLORADO 80295

FEB 5 1982

Ref: 8M-EE

Mr. Donald Zimmerman
Power Supply Division
Rural Electrification Administration
Washington, D.C. 20250

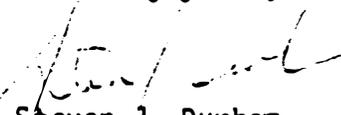
Dear Mr. Zimmerman:

The Region VIII Office of the Environmental Protection Agency has completed its comments on the Hayden-Blue River 345 kv Transmission Line Project draft environmental impact statement (DEIS) and offers the following comments for your consideration.

The DEIS is generally well written and comprehensive. Relative to impacts on water quality, we encourage you to work very closely with the Soil Conservation Service and other appropriate land management agencies in order to minimize erosion-related water quality impacts.

According to the system that EPA uses to rate draft EIS's, the Hayden-Blue River 345 kv Transmission Line Project DEIS will be listed in the Federal Register as LO-1. This means we have no objections to the project as proposed. If you have any questions regarding our comments, please contact Dennis Sohocki at FTS 327-4831.

Sincerely yours,


Steven J. Durham
Regional Administrator



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
REGIONAL/AREA OFFICE
EXECUTIVE TOWER - 1405 CURTIS STREET
DENVER, COLORADO 80202

March 5, 1982

REGION VIII

IN REPLY REFER TO:

Mr. Frank W. Bennett
Director
Power Supply Division
Rural Electrification Administration
Washington, D. C. 20250

Dear Mr. Bennett:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement (DEIS), Proposed Hyden to Blue River 345 KV Transmission Line and Associated Facilities in portions of Grand, Routt, and Summit Counties, Colorado.

Your DEIS has been reviewed with specific considerations for the areas of responsibility assigned to the Department of Housing and Urban Development (HUD). This review considered the proposal's compatibility with local and regional comprehensive planning and impacts on urbanized areas.

Your proposal will create a reliable source of additional electrical energy for the Front Range (eastern slope) of Colorado. The "secondary" impacts of the Front Range population growth should be discussed in relationship to this additional available energy. With this exception, this DEIS is adequate for our purposes.

If you have any questions regarding these comments, please contact Mr. Carroll F. Goodwin, Area Environmental Officer at (303) 837-3102.

Sincerely,

Robert J. Matuschek
Director
Office of Regional Community
Planning and Development, 8C



U.S. Department
of Transportation
**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

JAN 7 1982

Mr. Donald L. Zimmerman
Power Systems Specialist
Power Supply Division
Rural Electrification Administration
Washington, D.C. 20250

Dear Mr. Zimmerman:

We have reviewed the Draft Environmental Impact Statement on the
Hayden-Blue River 345 kV Transmission Line Project. As it does not affect
aviation transportation, we have no comments to offer.

Sincerely,

J. E. Densmore
Chief, Noise Abatement Division
Office of Environment and Energy

DIVISION OF WILDLIFE

Jack R. Grieb, Director
6060 Broadway
Denver, Colorado 80218 (825-1192)



M E M O R A N D U M

TO: Stephen O. Ellis
State Clearinghouse

FROM: C. J. Grand Pre *CH*
Division of Wildlife

SUBJECT: Hayden-Blue River 345 kV Transmission Line Project
Draft Environmental Impact Statement No. 82-102

DATE: February 8, 1982

We have reviewed the above cited project and concur with the presentation and interpretation of wildlife data. The evaluation of wildlife impacts as they relate to corridors A and B appear accurate.

We feel, however, the wildlife mitigation proposal needs further clarification. Mitigation Items 5, 6, and 7 on Page 6-2 of the DEIS states that certain procedures will be instituted whenever practicable. We believe the term "practicability" must be defined in these cases. Mitigation Item 2 is inconclusive. We assume the power line will not be constructed within a one-fourth mile distance of any documented Sandhill Crane staging and/or dancing ground and Sandhill Crane and Great Blue Heron nesting areas. Actual construction activities must be avoided during mating and nesting seasons for a distance greater than one-fourth mile. This distance to be determined by the Division of Wildlife and the U. S. Fish and Wildlife Service during selection of the right-of-way. Item 5 should state that mitigation for Golden Eagle nest disturbance will be conducted as per USFWS and DOW recommendations. Mitigation Item 8 should state that construction activities on mule deer and elk winter ranges will be avoided while occupied by those species. This should be subject to DOW consultation. It is necessary that Item 9 also be subject to DOW consultation.

The selection of the power line right-of-way is a critical element of line construction. It can also greatly influence the potential impacts of construction, maintenance, and operation of the line upon wildlife. Therefore, we would like the opportunity to participate in the final selection of the power line right-of-way.

If we can be of further assistance, please feel free to contact us at 303-825-1192.

ag

cc: NW Region
file ✓

FROM: Colorado Geological Survey
1313 Sherman Street, Room 715
Denver, Colorado 80203
303-839-2611

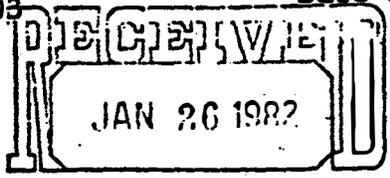
Application Number: EIS-# 821

Project Title: Hayden-Blue River St.
Transmission Li

TO: Colorado Division of Planning
1313 Sherman Street, Room 520
Denver, Colorado 80203

Project Location: NW Colorado

Date of Review: 1/26/82



RECOMMENDATIONS:

APPROVAL:

Geologic conditions DISTRICT OF COLORADO GOVERNMENT adversely affect the project as described in the application.

Adverse geologic conditions in the area have been evaluated by qualified geotechnical personnel, and proper mitigation measures have been recommended and should be followed.

CONDITIONAL APPROVAL:

Subsurface investigations should be conducted by qualified geotechnical personnel prior to design and construction to determine what mitigation measures, if any, will be necessary due to the following geologic conditions that are known or suspected to exist in this area:

- Swelling soils or rock
- High or seasonally high ground-water table
- Collapsing soils
- Potential development of a perched ground-water

Hydrologic investigations should be conducted by a qualified hydrologist to determine surface drainage requirements.

Earthwork should be supervised by qualified geotechnical personnel to assure the stability of cuts and adequate compaction of fill and backfill material.

Subsurface conditions in excavations should be evaluated by qualified geotechnical personnel to assure proper foundation design and utility installation.

Structures or utilities proposed for rehabilitation or reconstruction should be evaluated by qualified personnel to determine if adverse geologic or hydrologic conditions have resulted or may result in damage to the structures or utilities, and determine if the cost of mitigation warrants rehabilitation or reconstruction of all or any part of this project.

The suitability of standard septic systems should be evaluated by qualified personnel.

Adequate erosion and sedimentation control measures should be implemented.

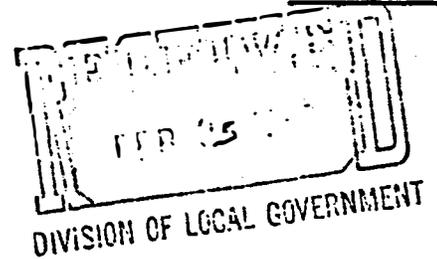
STATE OF COLORADO

DEPARTMENT OF HIGHWAYS

Grand Junction, Colorado 81502
(303) 242-2862



February 4, 1982



Mr. Stephen O. Ellis
State Clearinghouse
520 State Centennial Building
1313 Sherman
Denver, CO 80203

Dear Mr. Ellis:

District III of the Colorado Division of Highways has reviewed the Draft Environmental Impact Statement for the Hayden-Blue River Transmission Line and noted that the proposed transmission line will cross several state highways in northern Colorado.

Prior to crossing these state highways, utility crossing permits will have to be obtained from our Maintenance Superintendent in Craig -- Mr. Jack Kier, 270 Ranney Street, Craig, CO 81625. This permit requirement should be identified in the Final Environmental Impact Statement for this project.

Very truly yours,

R. A. PROSENCE
DISTRICT ENGINEER

Laurence R. Abbott
By LAURENCE R. ABBOTT
DISTRICT ENVIRONMENTAL MANAGER

LRA/jme

cc: Chocol/Geddy
Prosence/Sturm
Kier
Goad/Thompson
File

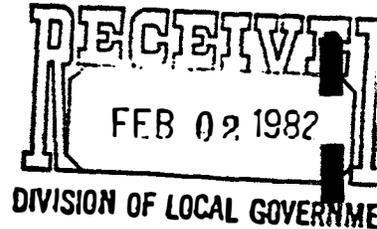


COLORADO
HISTORICAL
SOCIETY

The Colorado Heritage Center 1300 Broadway Denver, Colorado 80203

February 2, 1982

Mr. Stephen O. Ellis
Principal Planner
A-95 Clearinghouse
523 State Centennial Building
1313 Sherman Street
Denver, Colorado 80203



RE: Hayden-Blue River 345 kV Transmission Line Project,
#82-102

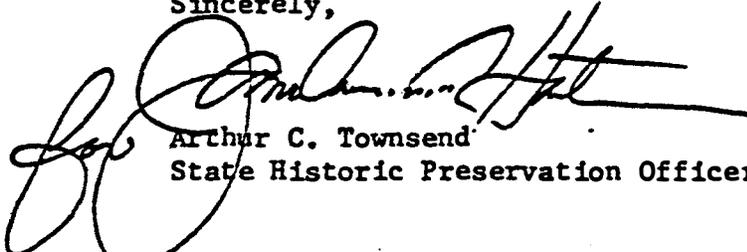
Dear Mr. Ellis:

The environmental impact statement listed above has been reviewed by this office.

The Rural Electrification Administration has stated that a cultural resource survey will be completed to identify any sites in the impact area that may be eligible to the National Register of Historic Places. Upon completion of the survey, a determination of effect must be made on all sites officially determined eligible. This should be done at the earliest stages of planning and prior to any construction activities. We anticipate consultation with this office once the survey has been completed.

If this office can be of further assistance, please contact the Compliance Division at 866-3392.

Sincerely,



Arthur C. Townsend
State Historic Preservation Officer

ACT/WJG:ss

COLORADO DEPARTMENT OF HEALTH

Richard D Lamm
Governor



Frank A. Traylor, M.D.
Executive Director

DATE: 3-2-82

SUBJECT: NON-STATE ASSISTANCE

REVIEW AND COMMENTS

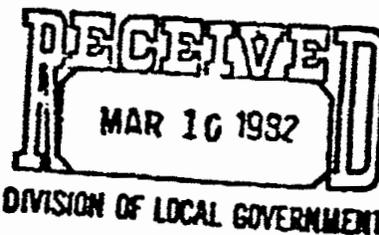
TO: Steve Ellis
State Clearinghouse
1313 Sherman St.; Room 523
Denver, CO 80203

PROJECT TITLE: Hayden-Blue River 345 KV Transmission Line Project

STATE IDENTIFIER: 82-102

COMMENTS DUE: 2-5-82

COMMENTS: Air Pollution Control - REA should be advised that a fugitive dust permit from the APCD will be required prior to construction of the transmission line. Recognition of this fact should be included in the final EIS under 6.2 mitigation, since steps will be required to control the dust caused by earthmoving.



for Paul A. Nagay
Name, Title
Thomas P. Looby
Environmental Programs Administrator

SC-3, Jan 31



RECEIVED

ROUTT COUNTY BOARD OF COUNTY COMMISSIONERS

Box 936 · Steamboat Springs · Colorado 80477 · 303/879-0108

February 4, 1982

Robert E. McKune
District 1
Oak Creek

Pat Holderness
District 2
Hayden

Douglas W. Boggs
District 3
Steamboat Springs

Daniel S. Maus
County Attorney
Box 9040
879-0100

Eunice Dorr
Clerk of the Board
Box 936
879-1710

Mr. Frank W. Bennett, Director
Power Supply Division
Rural Electrification Administration
Washington, D.C. 20250

Dear Mr. Bennett:

The Routt County Board of County Commissioners has received the Draft Environmental Impact Statement (DEIS) for the Hayden-Blue River 345 K.V. transmission line project. This DEIS has been reviewed with representatives of Tri-State, Rural Electrification Administration (R.E.A) and County Planning Staff. The Board of County Commissioners would like to present you with comments relating to the need for the proposed 345 K.V. line and the preferred alignment but is unable to make such a commitment until Tri-State has completed the public review process which is necessary to obtain a County Special Use Permit.

In 1972, the County adopted a zoning resolution which requires that a Special Use Permit be granted for any electrical transmission lines of 69 K.V. or more. This permit process involves input from the public and charges the Board of County Commissioners to ensure the following provisions are complied with:

H. Major facilities of a public utility as special uses subject to the following provisions:

1) The applicant for a special use permit for a major facility of a public utility shall have submitted the following information to the Planning Commission:

- a. A site plan, elevation, perspective and written description of the proposed use.
- b. Evidence that the applicant consulted with and/or applied to the Routt County Regional Planning Commission no later than application was made to any other authority having or asserting jurisdiction over the use.

2) That such use complies with all height and safety requirements as may be imposed by the Federal Aviation Administration where such use is located within the approach zones of public or private airports and emergency landing strips.

3) Such uses shall serve a documented public need.

- 4) Sufficient distance shall separate such uses from abutting properties which might otherwise be damaged due to the operation of the proposed use.
- 5) An explanation shall be made in writing of methods to be used to minimize smoke, odors, dust, noise, natural hazards, impacts on critical wildlife habitats and similar environmental problems which might result from the operation of the proposed use and in accordance with the requirements of Sections 8.4 and 8.7 of this Resolution.
- 6) Truck and automobile traffic to and from such uses shall not create hazards or nuisances to areas elsewhere in the County.
- 7) Satisfactory proof shall be given that any structures, facilities, lines or pipelines will be properly maintained.
- 8) Such use shall minimize the use of intensive cropland, including irrigated meadows and pasture land, cropland used for dryland agriculture, lands along valley floors intermingled with but not dedicated to cropland, and farm and ranch headquarters.
- 9) Such use shall minimize conflicts with existing and planned uses.
- 10) Such use shall reflect site selection to minimize adverse impacts on subsequent development of mineral resource areas, approved or planned reservoir sites, and deposits of construction aggregates.
- 11) All proposed above-ground appurtenances of such use shall:
 - a. Avoid "tunnel effect" of clearing visible from a population concentration of major transportation route
 - b. Avoid clear-stripping of right-of-way
 - c. Avoid creation of access scars visible as above
 - d. Avoid visually unique scenic vistas
 - e. Preserve as much as possible the natural landscape
 - f. Minimize alteration of the slope or aspect of any hillside.
- 12) Such use whose curvature, grade or other constraint inherent in such use tends to require alignment along valley floors or public ways shall:
 - a. Reflect avoidance of the applicable impacts of this section

- b. Provide for recompaction to restore the original density of disturbed irrigated ground
- c. Provide for the restoration of the approximate original slope of hillside and ridge cuts and minimize the width of clearing and cuts.

13) Before any Special Use Permit may be issued for a major facility of a public utility, the applicant shall furnish evidence of a bank commitment of credit in favor of Routt County, or a bond or certified check in an amount calculated by the Board of County Commissioners, to secure the site restoration in a workmanlike manner and in accordance with specifications and construction schedule established or approved by the appropriate engineer and the Board of County Commissioners. Such commitment, bond or check shall be payable to and held by the Board of County Commissioners of Routt County. (November 23, 1976)

In reviewing these provisions, it is the Board of County Commissioners' responsibility to ensure that any electric transmission line serve a need and be aligned and designed so as to minimize detrimental impacts. Until this public review process is completed, the Routt County Board of County Commissioners believes it is premature to comment specifically on the DEIS, but reserves its findings until they review the Special Use Permit request. This position is underscored since corridors A & B cross at the eastern boundary of Routt County. Thus, the alignment within Routt County should not be a major factor in determining the preferred corridor in Grand and Summit Counties.

As part of the County's Special Use Permit review process, the impact of the proposed facilities to the Yampa Valley Airport, weed control, and the reduced tax revenue generated to the County due to the tax exempt status of the Platte River Power Authority will be of particular interest to Routt County. In addition, the County would like to have the E.I.S. address the desirability of the possibility of installing a 345 K.V. line adjacent to the existing Hayden-Green Mountain-Summit 138/115 K.V. line.

Sincerely,

ROUTT COUNTY BOARD OF
COUNTY COMMISSIONERS



Doug Boggs, Chairman



SUMMIT COUNTY
BOARD OF COUNTY COMMISSIONERS

February 5, 1982

Frank W. Bennett, Director
Power Supply Division
Rural Electrification Administration
14th Street and Independence Avenue, S.W.
Washington, D.C. 20250

RE: Draft Environmental Impact Statement, Hayden-Blue River 345 KV
Transmission Line Project

Dear Mr. Bennett:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement for the proposed 345 KV line from Hayden to Blue River. Our comments are meant to apply specifically to the Lower Reach of the proposal although some of them are appropriate for the entire project. For clarity we have separated our comments into three categories.

GENERAL COMMENTS ON ALTERNATIVES

1. No Action Alternative - We do not believe the need for this project (at least the southern end) has been sufficiently demonstrated by the information presented to date. Two specific questions that we feel need to be answered are: a) Which companies' customers are going to pay the millions of dollars in construction costs and where do they reside, and b) Which companies' customers are going to be the users of the electricity carried in this line and where do they reside.
2. Upgrading Existing Hayden-Green Mountain Summit Line Alternative - We do not believe this alternative has received adequate consideration. The only disadvantage stated is that the existing line would need to be out of service for 8-10 months during construction of the new line. We have a hard time believing that given the level of planning and engineering at the participating companies and the construction techniques available that the old line would need to be out of service prior to a new line being available. With some realignment or widening of the R.O.W. construction should be able to take place without disturbing existing service. If this is not possible, does that mean that we are forever stuck with all existing lines and that the only solution is to keep adding new lines elsewhere?

COMMENTS ON DETAILS OF THE D.E.I.S.

1. There needs to be a landscaping design, access road, and construction techniques plan done for the entire line, not just that part to be constructed on Forest Service or BLM land.
2. Corridors A and B should not be considered to be an either/or situation, but the flexibility of combinations should be available.
3. The possibility of placing parts of the line underground where it makes environmental sense should not be ruled out.
4. The criteria to be considered and the process for preparing and reviewing the detailed "operations plan" need to be spelled out in the Final E.I.S. and should specifically address:
 - a. Where within the corridors the line will be placed.
 - b. Which areas would be constructed by helicopter versus which areas would be constructed overland.
 - c. Where new roads would be built and where reclamation would take place.
5. The feasibility of federal funds being available through the REA for this project, given the current Federal Fiscal philosophy, should be addressed.

COMMENTS ON CORRIDOR "B" IN LOWER REACH

Summit County would oppose any Forest Service, BLM, or County special use permits being issued to construct the line in this corridor unless it can be shown that the line would, in addition to meeting all other applicable regulations in effect at the time of construction:

1. Be consistent with the County's Master Plan Policies, specifically;
(See attached document)
 - a. Each development involving a change in land use or major subdivision should be analyzed on a fiscal impact (cost/benefit) basis.
 - b. Development should be analyzed for environmental and visual appropriateness.
 - c. Development outside urbanized areas should be encouraged to have little or no visible impact.
 - d. Maintenance of views from public areas will be encouraged.
 - e. Guaranteed landscaping and revegetation should be required in all development.

2. Be consistent with the County's request for Scenic Highway designation for Highway 9 (See attached request).

3. Be consistent with the placement of private ranch land into Conservation Trusts which is now in progress.

We believe that all of the above issues need to be addressed in the Final Environmental Impact Statement prior to a decision being made. We would ask you to respond directly to us on any issues that will not be so addressed.

Please contact us if any of our concerns are unclear.

Respectfully submitted,



Judith G. McBride, Chairman
Board of County Commissioners

Enclosures

JM/jmw



SUMMIT COUNTY
PLANNING DEPARTMENT

February 2, 1982

Mr. Frank W. Bennett, Director
Power Supply Division
Rural Electrification Administration
14th Street and Independence Ave., SW
Washington, D.C. 20250

RE: Comments on EIS for Hayden-Blue River 345 KV Transmission Line Project

Gentlemen:

At the January 28, 1982 Lower Blue Planning Commission meeting, the location of a new corridor for the tri-state 345 KV Transmission was discussed.

The Planning Commission felt it was difficult to assess the proposed locations due to the width of the mapped corridors (Corridor B appears to encompass the entire Blue River Valley in Summit County). However, in general, the Lower Blue Planning Commission felt that any new corridor should not be located in the Blue River corridor in Summit County (Corridor B) due to the following:

1. The power line and structures would be impossible to hide due to the lack of heavy forest on the east side of the Blue River, thereby impairing the visual amenities of Summit County's Lower Blue River Valley.
2. The recently adopted Summit County Master Plan Goals and Policies call for maintenance of views from public areas (Highway 9 is considered such an area).
3. In order to help maintain the scenic qualities of the Lower Blue River Valley, Summit County has requested that Highway 9 be designated a scenic highway. A new power line corridor would adversely affect visual amenities from the highway.
4. Private property owners in the Lower Blue have been cooperating in protecting the rural and aesthetic quality of that area by placing hundreds of acres of ranchland into conservation trusts.

Mr. Frank W. Bennett
Page 2

Thank you for allowing us to comment.

Sincerely,



Nancy Fulton
Vice-Chairman
Lower Blue Planning Commission

cc: Summit County Board of Commissioners

GRAND COUNTY

BOARD OF COMMISSIONERS

80 FEB 5 P 1: 55

LORENE LINKE

District I, Granby 80446

W. A. (BILL) NEEDHAM

District II, Granby 80446

HERBERT A. RITSCHARD

District III, Kremmling 80459

COURT HOUSE, HOT SULPHUR SPRINGS, COLORADO 80451

PHONE: 303-725-3376

303-725-3347

S.R. (STAN) BROOME

County Manager

January 28, 1982

Mr. Frank Bennett, Director
Power Supply Division
Rural Electrification Administration
Washington, D.C. 20250

Dear Mr. Bennett:

This letter is submitted by the Grand County Board of County Commissioners in order to present comments concerning the Draft Environmental Impact Statement for the Hayden-Blue River 345 kV Transmission Line Project. The Board of Commissioners have reviewed information provided in the D.E.I.S., and the consensus is that the following concerns should be further addressed in the Final E.I.S.:

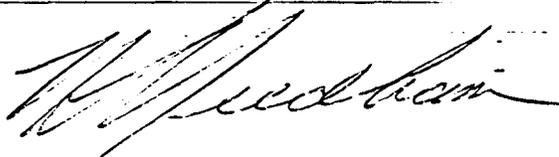
1. Two parallel powerline right-of-ways currently exist in the "B" corridor south of Kremmling. These lines (138 kV and 69 kV) are owned by Western Area Power Association which is one of the participants in the new project. It is the opinion of the County that before a completely new right-of-way is established in the "A" corridor, the lines now in the "B" corridor should be cleaned up by combining one or both with the new line.
2. There are additional opportunities in the "B" corridor in Grand County which were not evaluated fully in the D.E.I.S.. Such opportunities lend themselves to utilizing portions of the existing right-of-way in combination with establishing some new right-of-way. The County would like the D.E.I.S. to evaluate an option of double circuiting the 138 kV W.A.P.A. line with the 345 kV line from the Gore Pass Substation down to the Kremmling Tap. From this point the old line could continue in the existing right-of-way and the new line could utilize the eastern portion of the "B" corridor. This option shortens the line length in the South half of the project; allows connection to the "A" corridor if it is utilized for the North half of the project; avoids two crossings of Highway 40 and minimizes visual impact along Highway 9; will probably not significantly increase the project costs; and will allow for easier maintenance of the new line.

3. The D.E.I.S. fails to address conflicts between the proposed "A" corridor and the Wolford Mountain Reservoir now proposed by Grand County. The reservoir was not officially announced when the D.E.I.S. was prepared. Now that it has been announced it is very important that any conflicts are discussed in the Final E.I.S..
4. The D.E.I.S. fails to address the great potential for environmental degradation due to road construction and maintenance. Both visual and water quality impacts could be quite extensive particularly in the "A" corridor South of Kremmling.

It may not be possible to fully address these issues in the D.E.I.S.. The Grand County Special Use Permit requirements will address these issues when the application is submitted and reviewed. Any information that is provided in the Final E.I.S. could serve to accelerate local review.

5. Additional information should be provided concerning the justification for building the line to 345 kV instead of 230 kV. This information should specifically address the need for the larger line South of the Gore Pass Substation. The projections of Mountain Parks Electric would seem to indicate that the majority of the loading will occur East of the substation. It may be that capacity needs South of this point do not justify the larger line.

These comments have been provided based on the data received to date. The Board of Commissioners will be meeting with representatives from Tri-State on February 4, 1982. We request that we be given a comment deadline extension of one week in order to allow additional comments from the Board based on this meeting.



Chairman
Grand County Board of County Commissioners

GRAND COUNTY

92 FEB 12 P 1: 56

DEPARTMENT OF DEVELOPMENT AND PLANNING

COURT HOUSE, HOT SULPHUR SPRINGS, COLORADO 80451

PHONE: (303) 725-3347

EXT. 238



February 5, 1982

Mr. Frank Bennett, Director
Power Supply Division
Rural Electrification Administration
Washington, D.C. 20250

Dear Mr. Bennett:

In the first comments letter submitted by Grand County (dated January 28, 1982) we requested additional time to comment after a February 4, 1982 public hearing with Tri-State and W.A.P.A.. The following comments are submitted with the hope that they will be accepted and included in the Final E.I.S.:

1. In our opinion, the decision as to corridor choice should be as general as the information presented in the D.E.I.S.. We believe that the final conclusions should provide for the utilization of corridor A, corridor B and any combination of the two that is technically feasible. Such a decision is required in this case to allow maximum flexibility when the centerline is reviewed by local officials.

The local review process will include a review by the County Planning Commission and a public hearing before the Board of County Commissioners. The County review will be totally independent of the R.E.A. decision. Our jurisdiction over Federal lands within our boundaries has been confirmed in Federal court. We would not like to play out a scenario which involved designation of a corridor by R.E.A. that the County could not accept. This could result in litigation brought by the proponents or in a rewriting of the E.I.S.. Either of these products would waste a considerable amount of time and money.

2. The "Purpose and Need" section of the D.E.I.S. fails to mention that the additional load requirements in the Eastern portion of Colorado and in Wyoming far outway the needs in the immediate vicinity of the new line. Based on information presented at the hearing, Mountain Parks Electric will utilize only 15 to 20 percent of the new line capacity. This fact is not clear in the D.E.I.S. and it is a major feature of the project.
3. The D.E.I.S. provides little justification for continuing the 345 kV line South of the Gore Pass Substation. Public Service serves Summit County and they appear to have adequate facilities for many years in the future. The Southwest portion of Grand County is not growing very fast and will probably not require anything close to 345 kV capacity in the next several years. Even though the 115-138 kV

Green Mountain Line is overloaded, it will not require a 345 kV line to relieve the loading. It has yet to be shown that a 230 kV line will not suffice for this leg of the proposal.

4. The primary disadvantage of uprating or double circuiting listed on page 35 of Appendix I is that the existing line must be out of service during construction. This disadvantage is very easily overcome by building the new line adjacent to the old line and then taking down the old line and abandoning its right-of-way. This results in the same environmental impacts without interruption of service. In addition, the project cost for alternative 4 on page 33 is much less than the proposed action. This would seem to be the most logical alternative and should be further explored and addressed in the D.E.I.S..

Sincerely,



Paul H. Grant
Senior Planner, Grand County

PHG/lr

February 5, 1982

Mr. Frank W. Bennett, Director
Power Supply Division
Rural Electrification Administration
Washington, D. C. 20250

Dear Mr. Bennett

This letter is in regards to the TRI-STATE ELECTRIC Co. Draft Environmental Impact Statement for a power line through Routt, Grand and Summit Counties, Colorado. It came to my attention only today, February 5, 1982, that a Draft EIS on this project was available and that the Public Comment period ends on February 8, 1982. As an adjacent property owner to the Bureau of Reclamation Station at Hayden, Colorado, I would have expected that TRI-STATE would have been required to file a public notice in the legal section of both newspapers in Routt County. This was not done.

Further, I would have expected TRI-STATE to hold Public Meetings in Hayden, Steamboat Springs and Yampa, Colorado to inform the public of what the program is that they are proposing. This was not done.

Further, I would have expected the proposal to have been properly brought before the Routt County Regional Planning Commission, for their comments and input. This was not done.

Further, I am diametrically opposed to a power line project which has as a partner, Platte River Power Authority, who has a tax exempt status in Routt County.

Question, is the REA operating with different guidelines than other agencies and companies in the handling of DRAFT EIS's. This is certainly not the way that the BLM, Forest Service, OSN, or other agencies handle a DRAFT EIS program.

I would appreciate that the deadline on this Public Comment period be extended a minimum of 120 days so that TRI-STATE will have sufficient time to inform the public of their intentions and a review of the document DRAFT EIS may be made.

Page 2.

Mr. Frank W. Bennett

I would appreciate your prompt reply to this letter. Based on your letter I will then be able to determine my next course of action in this matter.

Very sincerely,



Craig M. Weaver

12330 Routt County Rd. 51B

P. O. Box 189

Hayden, Colorado 81639

92 FEB 5 P 1: 55

P. O. Box 10
Kremmling, Colorado 80459
January 29, 1982

Mr. Frank W. Bennett, Director
Power Supply Division
Rural Electrification Administration
14th Street & Independence Avenue, S.W.
Washington, D.C. 20250

Dear Mr. Bennett:

I am writing to you in regards to Draft Environmental Impact Statement concerning the construction of the Hayden to Blue River 345 kv transmission line project in Routt, Grand, and Summit Counties of Colorado. As a property owner in the lower reach of Corridor B near the Green Mountain Reservoir in Summit County, I could be directly affected by the eventual construction of this line. Since I am familiar with the land areas in the lower reaches of Corridors A and B, I will confine my comments to these areas.

In an earlier letter to Mr. Frank Zoller of REA, I pointed out the need for subsequent environmental reports to address the need for this line and its environmental impacts in specific detail. The current DEIS report sufficiently addresses the need for this line, so I won't dwell on this aspect. With the need established, the issue of location becomes paramount since, frankly, in this era of environmental concern, no one in his right mind would want a transmission line such as this in his backyard or to create irreversible impacts upon the environmental quality of the Colorado mountain areas.

I have reviewed Tri-State's Environmental Analysis and REA's DEIS report concerning this project and am in agreement with the selection of Corridor A as the preferred location by Tri-State and REA. I do not agree with the contention that the lower reach of Corridor B is an environmentally acceptable alternative corridor (p. 3-6, REA) for the following reasons:

1. In terms of visul resource preservation, the Environmental Analysis (Tri-State) clearly depicts the moderate to high visual quality of the lower reach of Corridor B which should be retained to the greatest extent possible. Highway 9 is heavily traveled by residents and visitors to Colorado, and preserving the visual quality in this Corridor is an essential political ingredient in maintaining Colorado's national image as having maintained a high level of environmental quality in the face of rapid growth.
2. The land use conflicts along the lower reach of Corridor B are more extensive and can therefore be more readily avoided by locating the line in Corridor A.

Mr. Frank W. Bennett
Page Two
January 29, 1982

3. The conflict with wildlife, a particular concern of mine, is substantially less in the lower reaches of Corridor A rather than Corridor B. The one exception is the large elk calving area in Corridor A south of the Williams Fork Reservoir. This area should be completely avoided during final center line selections. It is essential that elk calving areas remain undisturbed.

For these reasons, I do not feel that the lower reach of Corridor B should even be considered as an alternate.

Some concern with the Corridor A selection will undoubtedly be expressed by some people in Grand County. In terms of the lower reaches of both the A and B Corridors, I would like to point out that the old 69 kv line which has been proposed to be replaced by the new line, was located without the benefit of an environmental analysis. The idea of replacing this line with the new 345 kv line in the lower reach of Corridor B is not sound when judged using the information contained in the Environmental Analysis. I hope this point is not lost on you and others involved in the final center line location decisions.

I wish to commend all those involved with the preparation of the environmental documents for doing a thorough job. I agree with the selection of Corridor A as the preferred corridor for the location of this new transmission line. Thank you for the opportunity to respond.

Yours truly,



Fred Fox
Property Owner

cc: Mr. Bruce Baumgartner, County Manager, Summit County
Mr. Dick Phillips, Lower Blue Planning Commission, Summit County
Mr. Dick Shafer, Environmental Planner, Tri-State

RECEIVED
02 FEB 16 P 1: 47

E. H. Opitz
P.O. Box E
Kremmling, CO 80459

February 8, 1982

Mr. Frank Bennett, Director
Power Supply Division
Rural Electrification Administration
Washington, D.C. 20250

Subject: Hayden - Blue River Transmission line
Draft Environmental Impact Statement

Dear Mr. Bennett:

I am submitting this letter to present my comments concerning the Draft Environmental Impact Statement for the Hayden-Blue River Transmission Line. I am an interested, affected landowner.

My Summary Comments are as follows:

- 1) The final date for receipt of written comments should be extended to February 15, 1982
- 2) We object specifically to the Corridor A location EAST of the William's Fork Mountains on the basis of impact on private land holdings as compared with a possible route well within public land, along the western side of the mountains.
- 3) Further refinement of the EIS should require more specific analysis of routing within Corridors A & B, use of existing power routes, use of existing lines, and should not yet determine the selection between Corridors A & B.
- 4) The final selection process for alternate corridors and specific center line locations should be left to the local (county, USFS, and BLM) planning and public hearing process so that intelligent, detailed evaluation of all factors can be made by people with specific, local knowledge of the problems.

February 8, 1982

Mr. Frank Bennett

- 5) The transmission line is needed to serve the public interest as related to regional power requirements. It's location should be selected in a manner to least impact non-benefited private individuals along the route.

More detailed comments are presented on the attachment. These comments are made after review of the Draft EIS on file in Kremmling and after attending the public hearing held by Tri-State in Kremmling on February 4, 1982.

Sincerely,

Edward H. Opitz

E. H. Opitz

cc: Grand County BOCC
Senator Bill Armstrong
Senator Gary Hart
Congressman Hank Brown

Tri-State Hayden - Blue River Power Line

Comments on Draft EIS and Hearing

February 4, 1982

- 1) Tri-State/REA is not giving adequate response time for submittal of thought-out and specific comments to REA by February 8, 1982. The draft EIS is complex and lengthy, very general, and hard to analyze as far as specific impacts. Concerned individuals who desired to make a responsive comment needed to wait until they could get questions answered at the Public Hearing. Tri-State did not schedule this hearing until February 4, 1982 and made it more difficult by postponing the hearing the day it was scheduled, from 2 P.M. until 4 P.M., without notifying the public. Area ranchers did arrive for the 2 P.M. hearing to be told the meeting wouldn't be until 4 P.M.

Tri-States not scheduling this hearing until February 4 and then postponing the time on the day of the meeting does not leave adequate time to get comments to REA by February 8, 1982.

- 2) The method of analysis used to compare corridors, although based on fairly detailed work, seems to lose the impact of specific area problems and concerns in the end result. In the case of Corridor A vs Corridor B, Lower Reach, there are specific areas within each corridor that have, in our opinion, different comparisons than the summary results indicate.
- 3) The corridors as compared are very wide and include within each corridor vastly different areas and exposures to impact. Specifically, the Blue River Corridor, (Corridor B - Lower Reach) has some good opportunities for line location with minimal impact, along with some locations that could have major impact. Detail comments on this corridor are difficult to make without a more specific route location.
- 4) At the general level of the Draft EIS, no detail analysis is given for some of the following options in the Lower Reach:
 - 1) Maximizing use of existing corridors in the Kremmling and Green Mountain areas by parallel lines, double-circuiting, upgrading of existing lines, etc., all of which can feasibly be done without shutting down the existing lines, as the draft EIS alleges.

Tri-State Hayden-Blue River Power Line

Comments

- 4) 2) Installation of a new line along the western flank of the William's Fork Mountains, high above highway 40, well within public lands, yet still in open, untimbered terrain
- 3) The corridor/highway crossing analysis in the Kremmling area as presented by Alternate A requires 3 highway crossings. The job is presently being done with one crossing. WHY IS THIS?
- 5) We specifically object to the Corridor A location in the Lower Reach along the eastern flank of the William's Fork Mountains. The probable center line location could likely be in or near private lands for almost the entire length along the eastern side of the mountains. Construction access will be through private lands in many places. There will be an adverse short term impact due to construction problems and adverse long term impacts resulting from scenic degradation and ambient noise level. Many of the private holdings in this area are residential or recreational in nature and impacts of this sort will have a major adverse affect on quality of life and land values.

This will also affect ultimate land values of agricultural holdings for the same reasons.

It seems the previously mentioned route along the western slope of the William's Fork Mountains, in public land and well away from present or possible future development is far better in this respect.

However, again due to the general nature of the Draft EIS it is hard to specifically comment on either corridor.

SUMMARY COMMENTS

- 1) The final date for receipt of written comments should be extended to February 15, 1982
- 2) We object specifically to the Corridor A location EAST of the William's Fork Mountains on the basis of impact on private land holdings as compared with a possible route well within public land, along the western side of the mountains.

Tri-State Hayden - Blue River Power Line

Comments

SUMMARY COMMENTS (continued)

- 3) Further refinement of the EIS should require more specific analysis of routing within Corridors A & B, use of existing power routes, use of existing lines, and should not yet determine the selection between Corridors A & B.
- 4) The final selection process for alternate corridors and specific center line locations should be left to the local (county, USFS, and BLM) planning and public hearing process so that intelligent, detailed evaluation of all factors can be made by people with specific, local knowledge of the problems.
- 5) The transmission line is needed to serve the public interest as related to regional power requirements. It's location should be selected in a manner to least impact non-benefited private individuals along the route

Sincerely,



E. H. Opitz
(303) 724-3381
P.O. Box E
Kremmling, CO 80459



TOWN OF BRECKENRIDGE

March 10, 1982

Mr. Frank W. Bennett, Director
Power Supply Division
Rural Electrification Administration
14th Street & Independence Avenue, SW
Washington, D.C. 20250

Dear Mr. Bennett:

At its meeting of February 23, 1982 the Breckenridge Town Council adopted the enclosed Resolution. Please contact me if you have any questions.

Very truly yours,

Douglas C. Delano
Town Manager

DCD:sj

cc: Terry Skorheim, District Ranger
Summit County Planning
Tri-State Generation Association, Inc.
Colorado-Ute Electric Association, Inc.
U.S. Department of the Interior - BLM

RESOLUTION NO. 4

SERIES 1982

A RESOLUTION ENDORSING THE WILLIAMS FORK ROUTE AS THE PREFERRED ROUTE FOR THE HAYDEN-BLUE RIVER 345 KV TRANSMISSION LINE

WHEREAS, the Town Council of the Town of Breckenridge has reviewed the Draft Environmental Impact Statement for the Hayden-Blue River 345 KV Transmission Line; and

WHEREAS, that Draft recommends the Williams Fork Route as the alternative causing the least environmental damage;

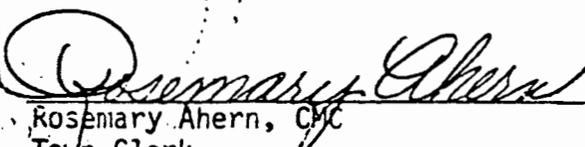
NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF BRECKENRIDGE, COLORADO THAT:

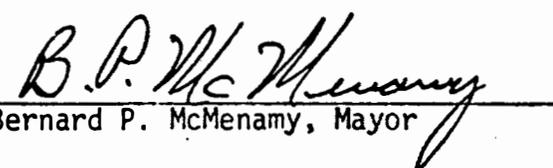
The Town Council hereby endorses the Williams Fork Route for the 345 KV Transmission Line and further, that the Town Council urges the Board of County Commissioners of Summit County to do likewise.

RESOLUTION ADOPTED AND APPROVED THIS 23rd day of February, 1982.

ATTEST:

TOWN OF BRECKENRIDGE


Rosemary Ahern, CMC
Town Clerk


Bernard P. McMenemy, Mayor

APPROVED BY TOWN ATTORNEY:


Date 2/23/82



Department Of Energy

Western Area Power Administration
P.O. Box 3402
Golden, Colorado 80401

MAR 10 1992

Mr. Donald L. Zimmerman
Power Systems Specialist
Power Supply Division
Rural Electrification Administration
U.S. Department of Agriculture
Washington, DC 20250

Dear Mr. Zimmerman:

We have reviewed the draft environmental impact statement (DEIS) for the Hayden-Blue River 345-kV Transmission Line Project. We have found the document to be adequate for our purposes and feel the document discusses the environmental ramifications of the Hayden-Blue River project. However, we feel that the discussions on the nature of Western Area Power Administration's (Western) participation in the project needs to be expanded in the document. Western is a participant in the project, and by agreement, will finance 10 percent of the project costs. The extent of this participation plus that of the other participants needs to be addressed in the document.

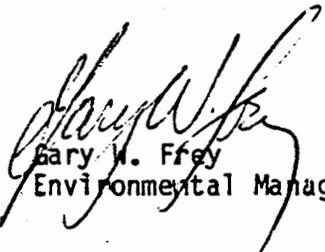
Neither the DEIS nor the background appendices fully describe the situation of the Hayden Substation which is operated by Western. The DEIS on page 3-11 implies that the Hayden Substation will not need expansion, but only bus work additions to accommodate the Hayden-Blue River Transmission Line. It should be stated further that terminal facilities for the Hayden-Blue River Transmission Line have already been constructed under a separate action. The need for the separate action stemmed from the fact that the original transformer bank at the Hayden Substation was continuously overloaded due to unforeseen scheduling practices, the desire to provide full plant capacity at the Craig and Hayden units, dominant power flows to the west through the 138-kV system, and accelerated load growths. To prevent the overloading of the transformer, Western and participants in the Hayden Plant decided to curtail generation to a net of 400 MW. To reduce the need for generation curtailment, Western and the participants decided to install a second transformer bank (stage 03) at Hayden which was completed by Western in May 1980. The installation of the second transformer bank reduced the jeopardy of participant outages by increasing transformation capacity, thereby, allowing greater operating flexibility. In designing and constructing the second transformer bank, Western was also able to provide terminal facilities for the Hayden-Blue River line. Therefore, additional construction will not be required at the Hayden Substation.

Page 3-11 also states that the Bureau of Reclamation (Bureau) prepared the environmental document for the Hayden Substation expansion. The environmental impact of expanding the Hayden Substation was addressed in a Negative Determination of Environmental Impact (March 24, 1978), prepared by Western, not the Bureau. The Bureau document (November 14, 1973), covered the Hayden Substation stage 02 additions for accommodating the Yampa Project (Craig Station) generation.

Page 1-3 addresses the use of helicopter construction. Western recognizes that helicopter use can be advantageous in rough, inaccessible terrain, or in environmentally sensitive areas. Helicopter use can substantially reduce the area disturbed by normal construction activities. Normally, helicopter use is left up to the discretion of the construction contractor. We recommend that helicopter usage be incorporated into the mitigation plan in section 6-0 by stating helicopters will be used in environmentally sensitive areas if stipulated in the construction plan.

Western supports aligning and designing the transmission line to avoid the placement of structures in wetlands. However, it may not be possible to avoid wetlands with construction equipment in some of the wider floodplains such as the Colorado River and Williams Fork. We, therefore, recommend that item 12 of section 6.2.3 be expanded to include the implementation of erosion control measures near wetlands. Since it is not practical to avoid the placement of structures in the floodplain of the Colorado River, we recommend that item 11 of section 6.2.3 be expanded to state that if structures are placed in a floodplain, the structures will be designed and constructed to withstand flooding and in accordance with local floodplain regulations.

If you have any questions on our comments or need additional input please contact Dave Swanson of my staff at FTS 327-7426.


Gary W. Frey
Environmental Manager

cc:
Robert Stern, Director
Office of Environmental Programs
NEPA Affairs Division
Department of Energy
EP-33, Forrestal Building
Washington, DC 20585

Taussig Ranch, Inc.
Box 456
Kremmling, Colo. 80459

Feb. 13, 1982

Dear Sir,

This letter is in regards to the proposed power line through the Kremmling area. We were very disappointed that you changed your Feb. 7 meeting in Kremmling to 4:00 p.m. We came to town to attend at the announced time of 2:00 p.m. but had to return to our ranch to feed stock. We felt that your company must not be interested in local input regarding the proposed power line.

It doesn't take an environmentalist, just common sense, to realize that the impact of a power line on

the land and wildlife would be far more devastating on the Williams Fork side of Williams Ridge than on the Blue River side. Maintaining a line on the Blue River side would be far more economical due to the southwestern exposure with its lack of snow and timber.

From a personal standpoint as landholders in the Williams Fork Valley, we would hate to see a major power line come through to scar the land. The Blue River Valley already has more development of that nature. Why mess up one valley for the sake of an adjacent one which already has major power lines and development?

If appears from map study that your line could go almost completely through government

land on the Blue River side
without going through much, if any,
timber. It only seems reasonable
that a public utility of this
nature should attempt to use
public ground where possible.

Sincerely,

Vicki Lousis,
James E. Lousis

March 4, 1982

Mr. Donald L. Zimmerman
Power Supply Division
Rural Electrification Administration
Washington, D. C. 20250

Dear Mr. Zimmerman:

Thank you for your letter of February 25, 1982 which finally arrived in Hayden on March 2, 1982. Frankly, it does not answer my concerns, as this letter will explain. I appreciate the Summary of Meetings with Routt County and the General Press Coverage, Routt County Newspapers with Legal Notices and Advertisements. I am appalled that the Daily Press is referred to as a Routt County newspaper. This is just not true. By order of the Routt County Commissioners, the Steamboat Pilot is the legal newspaper of Routt County. The Steamboat Pilot is published weekly and contains all of the legal publications pertaining to Routt County, for this reason I subscribe to this newspaper. The Daily Press is owned by Yampa Valley Newspapers, Inc. as is the Hayden Valley Press, however, the legal notices of January 18 and 25, 1982 and the advertisement of January 28, 1982, were only printed in the Daily Press a paper with very limited circulation in Routt County. Just guessing, I would say that the Hayden Valley Press has far greater circulation than the Daily Press. The legal notice and advertisement, as published allowed one copy of the DEIS in all of Routt County, at the Library, Steamboat Springs, Colorado. I learned of what was going on through an article in the Steamboat Pilot of February 4, 1982, which quoted the Routt County Planner, Mr. David Yanada, four days before the closing of comment submittal.

The timing of the publication of the DEIS in the Federal Register, December 24, 1981, and the non-concurrent legal notice in the Daily Press does not really give any person 45 days for DEIS review. Since the P&E regulations apparently do not require public Public Hearings before or after the DEIS and only meetings with certain elected, selected or employed persons, you really do not have a Public Hearing process. Tri-State has chosen to deal with four Routt County Commissioners, eight members of the public, maximum, and four member of the Routt County Planning Department. Let me emphatically state the the above group of 16 individuals do not speak for me and probably not for the other

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March 4, 1982

Mr. David L. Zimmerman

affected landowners along the route of this powerline corridor through Routt County. I would also be interested to know if any of the sever Routt County citizens had a conflict of interest, by being on an P&A Board of Directors..

It is my understanding that the Routt County Commissioners demanded the February 2, 1982 meeting with Tri-State and the subject came up of the Yampa Valley Airport at Hayden and the effects of a new 345kv line. The Tri-State representative stated if it was a problem, they would change the plans. Is this possibility covered in the DEIS? I did not see it. Besides this question I have some others.

1. Is the Platte River Power Authority getting a free ride on this project?
2. How much prime farmland, ie, crop grainland and irrigated meadow land, being taken out of production by this project?
3. There is no mention of noxious weed control with an approved list of chemical control and distribution rates, why not?
4. Is Colorado-Ute financially capable of participating in this project?
5. What affect on wholesale power rates will this have with regards to Colorado-Ute.
6. Is this 345kv line a full power line at all times or an intermittent use power line?

In closing, I feel the Public Hearing process on this project has been distorted, not followed and ultimately destroyed, your own exhibits confirm this. It is unfortunate a branch of the Federal Government is a party to this action. I therefore, still request that a delay of not to exceed 120 days be granted for the approval of the DEIS so that Tri-State can get its act together and hold well advertised Public Hearings on this project, in Routt, Grand and Summit Counties.

Respectfully submitted,

Craig M. Weaver
Craig M. Weaver

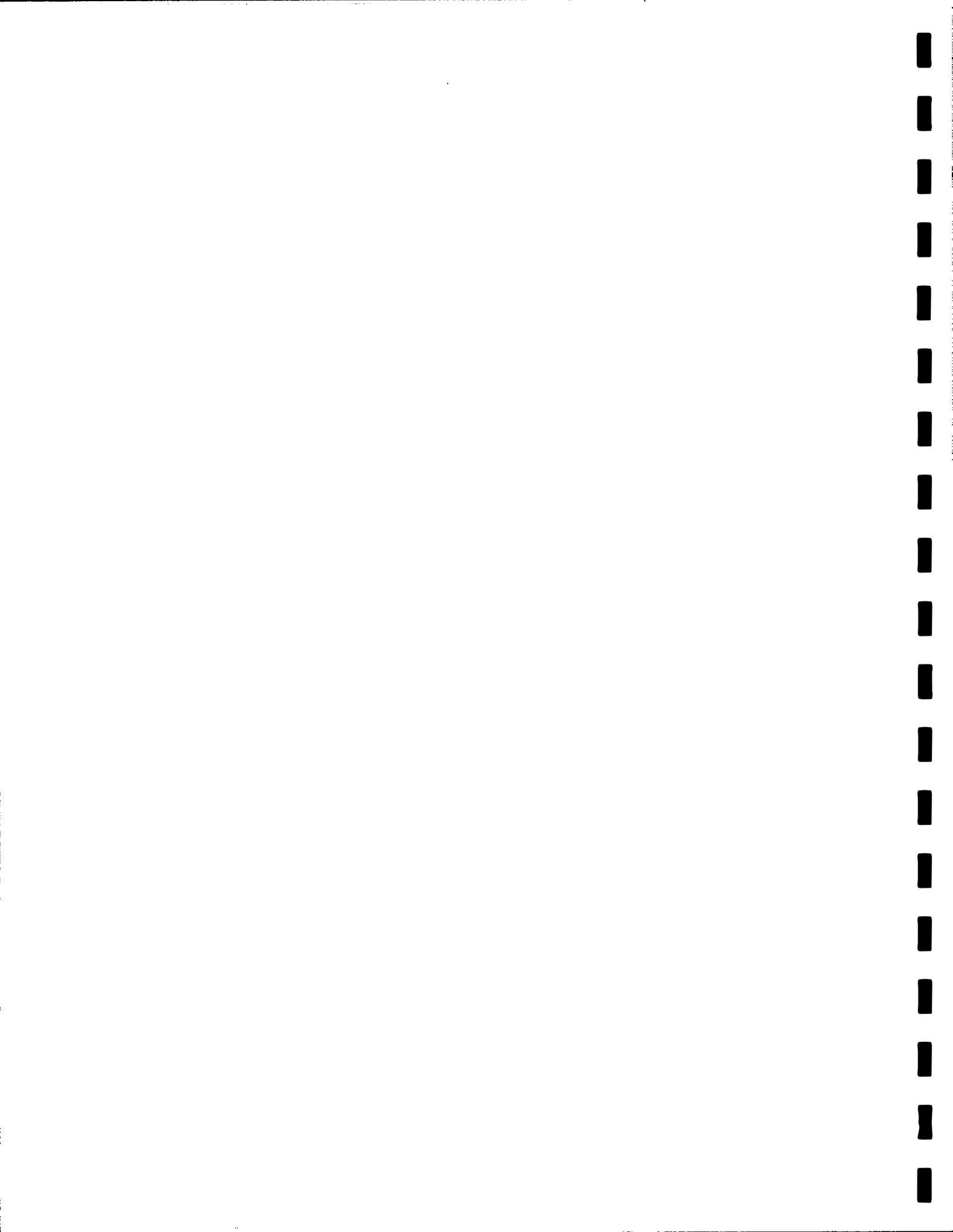
12330 Routt County Road

P. O. Box 189

Hayden, Colorado 81639

APPENDIX 5

Summary of Specific Effects of Siting the
Hayden to Blue River Transmission Line
In or Adjacent to the Existing Western
138/115 kV ROW



Summary of specific effects of siting the Hayden to Blue River transmission line in or adjacent to the existing Western 138/115 kV ROW.

Upper Reach

1. Long-range mining plans at the Seneca Mine include the ROW for the 138/115 kV line. Siting the new facility south of the existing ROW can reduce the potential for future relocation of the new facility, provide a necessary crossing point (the new facility must cross the existing lines somewhere) and avoid a significant skylining situation immediately east of the Seneca Mine.
2. Further to the east in segment 2 in the vicinity of Foidal Creek, the existing 138 kV line, here paralleled by a Colorado-Ute 230 kV line, crosses some 3.2 to 4.8 km (2 to 3 mi) of ground slated for surface coal mining by Energy Fuels. Again, siting the new facility somewhat south of existing facilities can reduce the potential for necessary relocation in the future.
3. In segment 2 near Foidal Creek, there is a greater sandhill crane nest adjacent to the existing 138 kV and 230 kV facilities.
4. At the Pittsburg & Midway Edna Mine, the existing 138 kV line has been relocated to accommodate surface mining activities and now lies on reclaimed land. However, Tri-State has learned of the probability of re-entry into this reclaimed area to recover lower-lying deposits of coal. Short-range mining plans call for moving Pittsburg & Midway's dragline across the 138 kV ROW within the next 8 years. The new facility must be some 50 m (165 ft) above the ground at a pre-determined point to accommodate this move. Discussion with Pittsburg & Midway indicates good potential for dealing with this constraint.
5. In segment 2, the 138 kV line and adjacent facility pass through some 8 km (5 mi) of sage grouse strutting and nesting areas.
6. In Segment 2, the 138 kV and 230 kV facilities pass through 2 km (1.2 mi) of sharp-tailed grouse dancing grounds, while in the vicinity of the Edna mine another 1 km (0.6 mi) of dancing grounds is crossed by the 138 kV line alone.
7. In segment 4, the 138 kV line is sited in the foreground viewshed as it passes by the community of Oak Creek.
8. Through the entire length of segments 4 and 7, 11 km (7 mi) of the existing 138 kV line is in the foreground as it lies along the hillside east of Colorado Highway 131.
9. Some 8 km (5 mi) of the 138 kV line in segments 4 and 7 are within the maximum visual constraint category.
10. The 138 kV line is in the foreground view from the community of Phippsburg in segment 7.
11. In segments 2, 4 and 7, some 18 km (11 mi) of the 138 kV line plus other existing facilities in segment 2 lie within areas classified as having high erosion potential.

12. The 138 kV line moves into Corridor B in segment 9 where it is in the foreground as viewed from the community of Yampa.
13. The existing 138 kV line crosses a County road leading to the Eagles Rock Lakes fishing resort in segment 9.
14. The 138 kV line is visible in the foreground from the community of Toponas.
15. In segment 12S, the 138 kV line crosses Colorado Highway 134 three times.
16. Through segments 9, 11 and 12S, the 138 kV line is generally in the foreground view for some 19 km (12 mi) along Colorado Highway 131 and for some 21 km (13 mi) along Colorado Highway 134.
17. Some 27 km (16 mi) of the 138 kV line in segments 9, 11 and 12S lie within the maximum visual constraint category.
18. In segments 9 and 12S, some 16 km (10 mi) of the 138 kV line lie within the high soil erosion potential category.
19. In segments 11 and 12S, some 13 km (8 mi) of the 138 kV line pass through sage grouse strutting and nesting areas.
20. In segment 12S, the 138 kV line is within the foreground view of a Routt National Forest campground.

Middle Reach

1. Segment 13 is common to both Corridors A and B. The 138 kV line enters the middle reach in segment 13 and is adjacent to a Forest Development Road in an open mountain park for some 3 km (2 mi) in segment 13 and for an additional 3 km (2 mi) in segment 16, Corridor B.
2. Some 3 km (2 mi) of the 138 kV line in segment 13 lie within the maximum visual constraint category.
3. Some 4 km (2.5 mi) of the 138 kV line in segment 13 lie within the high soil erosion potential category.
4. In segment 16, Corridor A, the 138 kV line is in the foreground view from Colorado Highway 134 for some 16 km (10 mi).
5. The 138 kV line crosses Colorado Highway 134 eight times in segment 16.
6. Some 6 km (4 mi) of the 138 kV line in segment 16 lie within the maximum visual constraint category.
7. Some 11 km (7 mi) of the 138 kV line in segment 16 lie within the high soil erosion potential category.
8. In segment 16, the 138 kV line is within the foreground view of four Routt National Forest campgrounds and one Arapaho National Forest campground.

- 9 The 138 kV line bisects the Gorewood Estates Subdivision in segments 16 and 17. It is doubtful that sufficient ROW for a 345 kV line could be acquired in this subdivision on the existing alignment. This would require buying out landowners and relocating them.
10. In segment 17N, the 138 kV line moves back into Corridor B. It is in the foreground view from Colorado Highway 134 for some 8 km (5 mi). A Mountain Parks 69 kV line joins the 138 kV line and parallels it to its termination at the Gore Pass Substation at the boundary between segments 17N and 17S. These lines are in the foreground view from U.S. Highway 40 in segment 17N for some 5 km (3 mi).
11. Some 3 km (2 mi) of the 138 kV line in segment 17N lie within the maximum visual constraint category.
12. In segment 17N, some 2 km (1.2 mi) of the existing 138 kV line lie in the high soil erosion potential category.
13. The Gore Pass Substation is in the foreground view from U.S. Highway 40.
14. Segment 17S is common to both Corridors A and B. A 69 kV Western line parallels the 138 kV line from the Gore Pass Substation to its termination at the Green Mountain Generating Station. These lines are in the foreground view from U.S. Highway 40 for some 3 km (2 mi).
15. Some 5 km (3 mi) of the 138 and 69 kV lines in segment 17S lie within the maximum visual constraint category.
16. Some 2 km (1.2 mi) of the 138 and 69 kV lines in segment 17S lie within the high soil erosion potential category.
17. In segment 17S, some 4 km (2.5 mi) of the sage grouse strutting ground and nesting area are crossed by the 138 kV and 69 kV facilities.

Lower Reach

1. The 138 and 69 kV lines continue southward in Corridor B through segment 18 where they cross some 8 km (5 mi) of Colorado River floodplain.
2. The 138 and 69 kV lines pass adjacent to the Kremmling town limits.
3. The 138 and 69 kV lines cross the Colorado River within the foreground view of a segment of that river inventoried as having potential for inclusion in the national Wild and Scenic Rivers System.
4. There is a bald eagle roost site adjacent to the 138 and 69 kV facilities in segment 18.
5. From segment 18 to the Green Mountain Generating Station, some 24 km (15 mi) of the 138 and 69 kV lines are within the maximum visual constraint category.

6. Existing facilities in segments 18 and 22 pass through 8 km (5 mi) of lands categorized as having high soil erosion potential.
7. Existing facilities in segments 18 and 22 pass through 12 km (7.5 mi) of sage grouse strutting and nesting areas.
8. There is an active prairie falcon nest in the vicinity of the Green Mountain Generating Station.
9. There are 3 active golden eagle nests adjacent to existing facilities in segment 22.
10. Existing facilities in segment 22 cross five mule deer migration corridors.
11. Existing facilities in segment 22 traverse 21 km (13 mi) of lands identified as "critical" mule deer winter range.
12. In segment 22, existing 138 and 69 kV facilities pass through the Blue Valley Acres 1 and 2 Subdivisions. Acquisition of 345 kV ROW through these subdivisions would require buying out landowners and relocating them.
13. In the vicinity of Green Mountain Reservoir, nine Arapaho National Forest campgrounds include existing transmission lines within their foreground views.
14. Between the Green Mountain and Blue River Stations, the Western 115 kV line passes through at least 19 km (12 mi) of lands categorized as maximum visual constraint.
15. Between the Green Mountain and Blue River Stations, the 115 kV line lies on at least 11 km (7 mi) of lands subject to mass movement (landslides, etc.).